INSIDE THIS WEEK: TECHNOLOGY QUARTERLY

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How to stop the drug wars



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How to stop the drug wars

Prohibition has failed; legalisation is the least bad solution: leader



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Bangladesh after the rebellion
Bad or mad?

Afghanistan's presidential elections
Better than the alternative

Afghanistan's northern neighbours
Road blocks

Japan's opposition
A bruiser bruised

Vietnam's economy
In need of some snake-blood

The state of the Chinese nation
Yes, prime minister

Middle East & Africa

Hillary Clinton in the Middle East
All charm and smiles

Congo and Rwanda
A jungle alliance that may just endure

Zimbabwe's farms
Whose land?

Algeria
Steady but stale

Europe

Turkey
The enduring popularity of Recep Tayyip Erdogan

Spain and its regions
A new landscape

Top jobs in France
Elitism rules OK

France and agriculture
Back to the farm

Charlemagne
Extremist nightmares

Correction: Eastern Europe

Britain

Monetary policy
Now for something completely different

State-owned banks
The go-between

London's mayor
Getting it together

Protecting medical data
Sorry, that's personal

Scotland's drinking crackdown
Last orders

Bagehot
The odd couple

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International

The worst crimes, the law and the UN Security Council
Braced for the aftershock

Finance and economics

Stockmarkets and dividends
Slash and burn

Japan's economy
Rebalancing act

HSBC's rights issue
Household chores

Buttonwood
The grand illusion

Euro-zone government bonds
Beating the rush

Corporate bankruptcy
Burning down the house

India's economy
Bridges to somewhere

Economics focus
Give me your scientists...

Science & Technology

Agriculture
The bees are back in town

Physiognomy and economics
About face

Vanishing twins
Haunted by the past

Physics and philosophy
I'm not looking, honest!

Books & Arts

The fall of Bear Stearns
Bearing all

Raúl Prebisch
Latin America's Keynes

Iraq under Saddam
Only obeying orders

French history
Revolutionary women

Shapes
Nature's patterns

The Yves Saint Laurent sale
Caveat venditor

Obituary

Conchita Cintrón

Economic and Financial Indicators

Overview

Output, prices and jobs

The Economist commodity-price index

The Economist poll of forcasters, March averages

Trade, exchange rates, budget balances and interest rates

Markets

Market performance

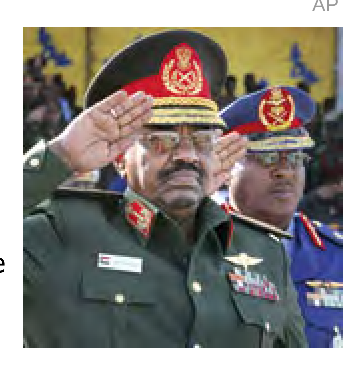
Politics this week

Mar 5th 2009
From The Economist print edition

In her first foray to the Middle East as America's secretary of state, **Hillary Clinton** confirmed the new American administration's intention to change tack. In **Egypt** she said she would provide $900m for reconstruction in the Gaza Strip. In **Israel** she contradicted the probable incoming prime minister, Binyamin Netanyahu, by reaffirming America's support for a two-state solution for Israel and **Palestine**. And in a sign of warming relations with **Syria**, she also said she would send two emissaries to Damascus. See article

Barack Obama said he would withdraw American troops from **Iraq** by September 2010. But he might leave a residual force of up to 50,000 there longer, to help train Iraqis and to engage in "counter-terrorism", if need be. See article

AP



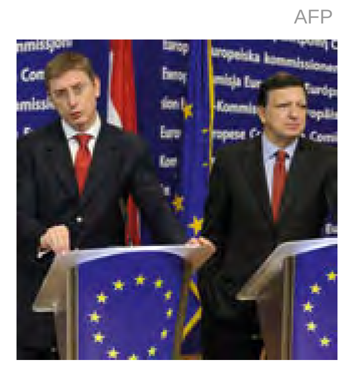
The **International Criminal Court** in The Hague issued an arrest warrant for **Sudan's** president, Omar al-Bashir, on charges of crimes against humanity committed in Sudan's Darfur region. A request by the ICC's chief prosecutor for a further indictment for genocide was rejected in a split decision by the presiding judges. Sudan said it would not co-operate and expelled ten foreign aid agencies. See article

Another special tribunal in The Hague, set up by the UN to try people suspected of killing **Lebanon's** former prime minister, Rafik Hariri, formally got going. The court may wait until after Lebanon's general election in June before asking its government to transfer four generals already held in connection with the killing.

João Bernardo Vieira, president of **Guinea-Bissau**, was assassinated by soldiers loyal to the head of the army, who had been killed shortly before.

Outside the euro club

AFP



At a summit in Brussels, **European Union** leaders rejected a plea by Hungary for a huge rescue package for eastern Europe. The Hungarians talked darkly of a new iron curtain being created, a fear reinforced when a European commissioner admitted days later to plans to rescue euro-area countries in difficulty. See article

As further evidence of America's desire to press the reset button with **Russia**, it emerged that Barack Obama had written privately to his Russian counterpart, Dmitry Medvedev, about missile defences and Iran. NATO also agreed to reopen ministerial contacts with Russia, frozen since last year's war in Georgia.

America said it would stay away from a **UN conference on racism**, due to take place in April in Geneva, on the ground that it would be biased against Israel. Canada and Israel have already pulled out.

A fresh trial began in Moscow of **Mikhail Khodorkovsky**, the former owner of Yukos, an oil company, on charges of money laundering. Observers predicted that Mr Khodorkovsky, who has been in jail ever since falling out with the Kremlin in 2003, could receive another lengthy jail sentence.

Nationalist parties did badly in the Basque and Galician elections in **Spain**. In the Basque country, non-nationalists won a majority of seats for the first time in 30 years. See article

Britain's Gordon Brown became the first European leader to meet Barack Obama in the White House; he later addressed Congress. Both leaders talked up the strong relationship between the two countries, though sceptics noted Mr Obama's decision not to hold a joint press conference. The president issued a statement saying how much he enjoyed the prime minister's visit. See article

A hint of spring in the air

Cuba's president, Raúl Castro, shuffled his cabinet, sacking the long-serving foreign minister and cabinet secretary. In the United States, Harry Reid, the Senate majority leader, said a measure to soften sanctions against Cuba, which has already passed in the House, could pass his chamber, too. See article

Canada's economy shrank at an annualised rate of 3.4% in the fourth quarter of 2008, its worst performance since 1991. Its current account swung into deficit for the first time since the second quarter of 1999.

Venezuela's President Hugo Chávez sent troops to seize the country's privately owned rice mills, accusing them of disobeying his **price controls.** Argentina's government rattled farmers by talking of creating a state-backed agency to control grain prices.

Increasingly unstable Pakistan

AFP



Gunmen in Lahore, in **Pakistan's** Punjab province, attacked a bus carrying the Sri Lankan cricket team to an international match. Six policemen and two others were killed in the subsequent shooting. A number of cricketers were injured. The team returned home and the cricket series was cancelled. See article

Sri Lanka's government rejected calls from the rebel Tamil Tigers for a ceasefire to allow peace talks. The international Red Cross gave warning of an impending humanitarian disaster involving up to 150,000 civilians trapped by the fighting in the thin sliver of north-eastern Sri Lanka remaining under rebel control. See article

India announced that a general election will be held in five stages from April 16th to May 13th, with the count on May 16th. More than 828,000 polling stations will cater for 714m registered voters.

The government of **Bangladesh** said it would press charges against mutineers from the Bangladesh Rifles, whose rebellion in late February killed 74 people. See article

Hamid Karzai, **Afghanistan's** president, said he wanted a presidential election to be held in April, as required under the constitution. The Election Commission, however, overruled him, upholding an earlier postponement until August. See article

Once more unto the breach

Barack Obama said he recognised that opponents would be "gearing up for a fight" over his $3.6 trillion **budget.** Republicans decried the cost of all the new spending and cast doubt on the savings that the administration said it expected to make.

Mr Obama nominated **Kathleen Sebelius** as health secretary, his second choice following the withdrawal of Tom Daschle. Mrs Sebelius, the Democratic governor of Kansas, a solidly Republican state, will be involved in pushing health-care reform through Congress. The budget seeks a health fund of $630 billion. See article

John McCain's attempt to reduce **earmarks** in an omnibus spending bill was defeated in the Senate. The senator has long-promised to rein back legislators' pet projects. Two Democratic senators said they would now not vote for the bill because of the earmarks.

Business this week

Mar 5th 2009
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The **Bank of England** reduced interest rates by half a percentage point, to 0.5%. The central bank also announced the start of its unconventional policy of "quantitative easing", ie, directly buying gilts as well as some private assets to boost the money supply. See article

American International Group reported a net loss of $61.7 billion for the final quarter of 2008, the largest in American history, bringing its total loss for the whole year to almost $100 billion. The insurer is deemed "too big to fail" by the government, which extended a further $30 billion in new capital to the company in addition to the $150 billion in new equity and loans that was provided last year.

Citi degradation

Analysts continued to pore over the details of **Citigroup's** third bail-out since October. The latest deal could see the government ending up with a 36% stake in the bank through the conversion of preferred stock to common equity. The conversion price was set at $3.25 a share, much higher than the $1.20 or so that Citi's shares traded at this week.

HSBC confirmed that it would raise new capital through a £12.5 billion ($17.7 billion) rights issue. The banking group reported a pre-tax profit of $9.3 billion in 2008, down by 62% from 2007. HSBC's North American division made a $15.5 billion loss, due mostly to a $10.6 billion charge related to the division's consumer-lending business, which HSBC now wants rid of. See article

The banking industry received some rare good news with the release of **Standard Chartered's** earnings. The bank obtains most of its business from Asia, Africa and the Middle East and made a record pre-tax profit last year, of $4.8 billion, helped in part by a surge in foreign-exchange trading that boosted its wholesale-banking business.

General Electric's boss, Jeffrey Immelt, said the crisis will result in the global economy and capitalism being "reset in several important ways" and that government would become a "key partner" to business. The conglomerate's share price continued to fall over worries it might lose its top-notch credit rating.

Come on, divvy up

A debate raged about the merit of **dividends** during the present recession with many banks and companies either reducing or suspending their payouts: GE cut its quarterly dividend for the first time since 1938. **Eurotunnel**, however, announced that it would make its first ever payment to shareholders. The operator of the tunnel that links Britain and France turned a profit of €40m ($58m) last year, despite a drop in sales due to a fire that affected train services for months. See article

In a decision that could see a wave of lawsuits, the Supreme Court ruled that **drugs companies** can be sued in state courts over defects caused by their treatments, even if the medicine has been approved by federal regulators. The companies argue that a single, federal standard is effective and sufficient to protect consumers.

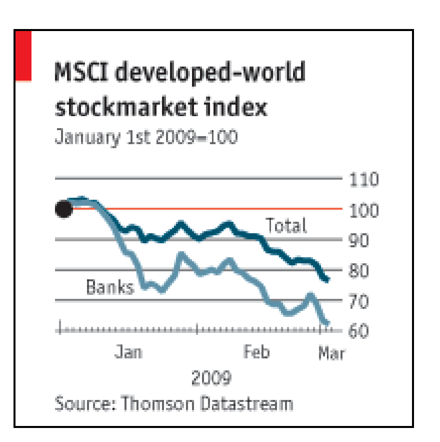
It emerged that **Terra Firma Capital Partners** has written down about half the investment it made in **EMI**. The private-equity group announced it was buying the music company in May 2007. With the value of their once-prized assets plunging, many private-equity firms have decided to reduce the paper value of their investments.

Blockbuster's share price plummeted by 77% in a day, causing the suspension of trading in its stock. The film-rental chain has asked a law firm that specialises in bankruptcy and restructuring to help with its "ongoing financing and capital-raising".

More help at hand

America's Treasury released guidelines to the new "Making Home Affordable" scheme, which helps as many as 9m **homeowners** restructure their mortgages. The plan provides public money to lenders to reduce a borrower's monthly payments to possibly as low as 31% of their monthly income. The Federal Reserve, meanwhile, launched a programme to revive **securitisation markets** by providing cheap financing for up to $1 trillion of non-bank lending, primarily to consumers.

Stockmarkets took a further battering in the first half of the week. Some indices fell to their lowest levels for many years. Barack Obama decided to give away some free financial advice. The president compared stockmarkets to political daily-tracking polls, and suggested that now is a good time for investors with "a long-term perspective" to buy shares.



There was a brief rally in global stockmarkets in the hope that **China's** prime minister, Wen Jiabao, would increase the amount of spending in the country's economic stimulus package. In the end he didn't, though he said the government was committed to achieving economic growth of 8% this year and would thereby "significantly increase" investment. See article

KAL's cartoon

Mar 5th 2009
From The Economist print edition

Illustration by KAL



Failed states and failed policies

How to stop the drug wars

Mar 5th 2009
From The Economist print edition

Prohibition has failed; legalisation is the least bad solution

Illustration by Noma Bar



A HUNDRED years ago a group of foreign diplomats gathered in Shanghai for the first-ever international effort to ban trade in a narcotic drug. On February 26th 1909 they agreed to set up the International Opium Commission—just a few decades after Britain had fought a war with China to assert its right to peddle the stuff. Many other bans of mood-altering drugs have followed. In 1998 the UN General Assembly committed member countries to achieving a "drug-free world" and to "eliminating or significantly reducing" the production of opium, cocaine and cannabis by 2008.

That is the kind of promise politicians love to make. It assuages the sense of moral panic that has been the handmaiden of prohibition for a century. It is intended to reassure the parents of teenagers across the world. Yet it is a hugely irresponsible promise, because it cannot be fulfilled.

Next week ministers from around the world gather in Vienna to set international drug policy for the next decade. Like first-world-war generals, many will claim that all that is needed is more of the same. In fact the war on drugs has been a disaster, creating failed states in the developing world even as addiction has flourished in the rich world. By any sensible measure, this 100-year struggle has been illiberal, murderous and pointless. That is why *The Economist* continues to believe that the least bad policy is to legalise drugs.

"Least bad" does not mean good. Legalisation, though clearly better for producer countries, would bring (different) risks to consumer countries. As we outline below, many vulnerable drug-takers would suffer. But in our view, more would gain.

The evidence of failure

Nowadays the UN Office on Drugs and Crime no longer talks about a drug-free world. Its boast is that the drug market has "stabilised", meaning that more than 200m people, or almost 5% of the world's adult population, still take illegal drugs—roughly the same proportion as a decade ago. (Like most purported drug facts, this one is just an educated guess: evidential rigour is another casualty of illegality.) The production of cocaine and opium is probably about the same as it was a decade ago; that of cannabis is higher. Consumption of cocaine has declined gradually in the United States from its peak in the early 1980s, but the path is uneven (it remains higher than in the mid-1990s), and it is rising in many places, including Europe.

This is not for want of effort. The United States alone spends some $40 billion each year on trying to eliminate the supply of drugs. It arrests 1.5m of its citizens each year for drug offences, locking up half a million of them; tougher drug laws are the main reason why one in five black American men spend some time behind bars. In the developing world blood is being shed at an astonishing rate. In Mexico more than 800 policemen and soldiers have been killed since December 2006 (and the annual overall death toll is running at over 6,000). This week yet another leader of a troubled drug-ridden country—Guinea Bissau—was assassinated.

Yet prohibition itself vitiates the efforts of the drug warriors. The price of an illegal substance is determined more by the cost of distribution than of production. Take cocaine: the mark-up between coca field and consumer is more than a hundredfold. Even if dumping weedkiller on the crops of peasant farmers quadruples the local price of coca leaves, this tends to have little impact on the street price, which is set mainly by the risk of getting cocaine into Europe or the United States.

Nowadays the drug warriors claim to seize close to half of all the cocaine that is produced. The street price in the United States does seem to have risen, and the purity seems to have fallen, over the past year. But it is not clear that drug demand drops when prices rise. On the other hand, there is plenty of evidence that the drug business quickly adapts to market disruption. At best, effective repression merely forces it to shift production sites. Thus opium has moved from Turkey and Thailand to Myanmar and southern Afghanistan, where it undermines the West's efforts to defeat the Taliban.

Al Capone, but on a global scale

Indeed, far from reducing crime, prohibition has fostered gangsterism on a scale that the world has never seen before. According to the UN's perhaps inflated estimate, the illegal drug industry is worth some $320 billion a year. In the West it makes criminals of otherwise law-abiding citizens (the current American president could easily have ended up in prison for his youthful experiments with "blow"). It also makes drugs more dangerous: addicts buy heavily adulterated cocaine and heroin; many use dirty needles to inject themselves, spreading HIV; the wretches who succumb to "crack" or "meth" are outside the law, with only their pushers to "treat" them. But it is countries in the emerging world that pay most of the price. Even a relatively developed democracy such as Mexico now finds itself in a life-or-death struggle against gangsters. American officials, including a former drug tsar, have publicly worried about having a "narco state" as their neighbour.

The failure of the drug war has led a few of its braver generals, especially from Europe and Latin America, to suggest shifting the focus from locking up people to public health and "harm reduction" (such as encouraging addicts to use clean needles). This approach would put more emphasis on public education and the treatment of addicts, and less on the harassment of peasants who grow coca and the punishment of consumers of "soft" drugs for personal use. That would be a step in the right direction. But it is unlikely to be adequately funded, and it does nothing to take organised crime out of the picture.

Legalisation would not only drive away the gangsters; it would transform drugs from a law-and-order problem into a public-health problem, which is how they ought to be treated. Governments would tax and regulate the drug trade, and use the funds raised (and the billions saved on law-enforcement) to educate the public about the risks of drug-taking and to treat addiction. The sale of drugs to minors should remain banned. Different drugs would command different levels of taxation and regulation. This system would be fiddly and imperfect, requiring constant monitoring and hard-to-measure trade-offs. Post-tax prices should be set at a level that would strike a balance between damping down use on the one hand, and discouraging a black market and the desperate acts of theft and prostitution to which addicts now resort to feed their habits.

Selling even this flawed system to people in producer countries, where organised crime is the central political issue, is fairly easy. The tough part comes in the consumer countries, where addiction is the main political battle. Plenty of American parents might accept that legalisation would be the right answer for the people of Latin America, Asia and Africa; they might even see its usefulness in the fight against terrorism. But their immediate fear would be for their own children.

That fear is based in large part on the presumption that more people would take drugs under a legal regime. That presumption may be wrong. There is no correlation between the harshness of drug laws and the incidence of drug-taking: citizens living under tough regimes (notably America but also Britain) take more drugs, not fewer. Embarrassed drug warriors blame this on alleged cultural differences, but even in fairly similar countries tough rules make little difference to the number of addicts: harsh Sweden and

more liberal Norway have precisely the same addiction rates. Legalisation might reduce both supply (pushers by definition push) and demand (part of that dangerous thrill would go). Nobody knows for certain. But it is hard to argue that sales of any product that is made cheaper, safer and more widely available would fall. Any honest proponent of legalisation would be wise to assume that drug-taking as a whole would rise.

There are two main reasons for arguing that prohibition should be scrapped all the same. The first is one of liberal principle. Although some illegal drugs are extremely dangerous to some people, most are not especially harmful. (Tobacco is more addictive than virtually all of them.) Most consumers of illegal drugs, including cocaine and even heroin, take them only occasionally. They do so because they derive enjoyment from them (as they do from whisky or a Marlboro Light). It is not the state's job to stop them from doing so.

What about addiction? That is partly covered by this first argument, as the harm involved is primarily visited upon the user. But addiction can also inflict misery on the families and especially the children of any addict, and involves wider social costs. That is why discouraging and treating addiction should be the priority for drug policy. Hence the second argument: legalisation offers the opportunity to deal with addiction properly.

By providing honest information about the health risks of different drugs, and pricing them accordingly, governments could steer consumers towards the least harmful ones. Prohibition has failed to prevent the proliferation of designer drugs, dreamed up in laboratories. Legalisation might encourage legitimate drug companies to try to improve the stuff that people take. The resources gained from tax and saved on repression would allow governments to guarantee treatment to addicts—a way of making legalisation more politically palatable. The success of developed countries in stopping people smoking tobacco, which is similarly subject to tax and regulation, provides grounds for hope.

A calculated gamble, or another century of failure?

This newspaper first argued for legalisation 20 years ago (see article). Reviewing the evidence again (see article), prohibition seems even more harmful, especially for the poor and weak of the world. Legalisation would not drive gangsters completely out of drugs; as with alcohol and cigarettes, there would be taxes to avoid and rules to subvert. Nor would it automatically cure failed states like Afghanistan. Our solution is a messy one; but a century of manifest failure argues for trying it.

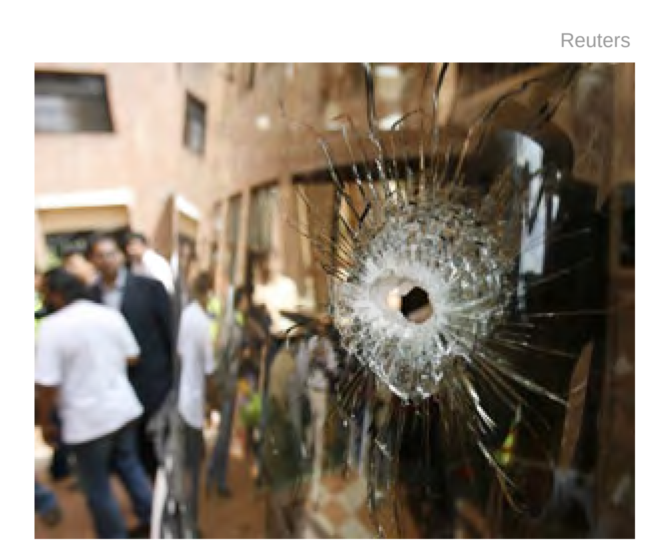
Terrorism in Pakistan

Horror in Lahore

Mar 5th 2009
From The Economist print edition

Soldiers and politicians have looked the other way during Pakistan's slide into chaos

Reuters



BY THE grisly standards of Pakistani terrorism it was a failure. Only eight people were killed in this week's ambush of Sri Lanka's cricket team in Lahore, none of them the assumed targets of the attack, the cricketers themselves (see article). Far bloodier outrages are all too common, and not just in the wilds of the tribal areas near Afghanistan. Last year more than 50 people died in the bombing of the Marriott, one of the poshest hotels in the capital, Islamabad; less than four months ago a concerted assault on Mumbai, launched from Karachi, killed more than 170 people. Yet the latest atrocity gives rise to particular concern about the future of Pakistan itself, and hence of the war in Afghanistan, which will be lost if its consequence is the Talibanisation of its neighbour.

This is not just because the attack involved famous sportsmen and because, like the Mumbai raid, it was captured in graphic and horrifying television images. Involving up to a dozen gunmen, it took place in the very heart of Lahore, one of Pakistan's most cosmopolitan cities, and close to the Indian border. The Sri Lankan team was an obvious target. Indeed, it had agreed to tour Pakistan after India had pulled out because of security concerns, and was promised "presidential" levels of protection. Yet the security forces failed to thwart the first such terrorist attack on an international sports team since Israeli athletes were the victims at the Munich Olympics in 1972.

This suggests that no one is safe. Indeed, when the interior minister, Rehman Malik, this week declared Pakistan to be "in a state of war", he seemed to confirm as much. Tourism into the country has already dried up. Sporting, cultural and business visitors are now all likely to think twice about going. It marks a dangerous lurch towards the sort of ostracism of Pakistan the perpetrators presumably hope to provoke.

The ambush also came as Pakistan has produced fresh evidence of the besetting sins of its polity, which so handicap it in combating its lunatic terrorist fringe: the venality, petty-mindedness and short-sightedness of its civilian politicians; and the lack in its armed forces of a wholehearted commitment to the complex business of uprooting Islamic terrorism.

Sceptics never believed that the alliance between the two mainstream parties that toppled Pervez Musharraf from the presidency last year was more than an expedient truce. Both party leaders, President Asif Zardari and Nawaz Sharif, a two-time former prime minister, have since done their best to vindicate the cynicism. Both have been preoccupied with a nakedly political squabble over the judiciary. With Mr Zardari in the driving seat and his judges winning, Mr Sharif's supporters have taken to the streets. While the two leaders have fiddled over who sits on the judges' benches, the flames threatening to engulf Pakistan have been rising.

The army and intelligence services are no longer the *jihad*-sponsoring Islamists who created the Taliban to fight Soviet rule in Afghanistan in the 1980s. The army has lost hundreds of men fighting extremists in the tribal areas. But the terrorists who attacked Mumbai and Lahore seemed well-trained. It is not far-fetched to believe the groups behind them enjoy some official connivance. One of their aims may have been to heighten tensions with India. Indeed, some Pakistani ministers, including Mr Malik, were quick to hint at Indian complicity in the attack, as alleged revenge for Mumbai.

The army might like that to be true. It has always seemed more comfortable brandishing its fists in a nuclear-armed war dance with its neighbour than waging a counter-insurgency campaign against its ethnic kin and co-believers on the western front. In Swat, in North-West Frontier Province, it has agreed to a ceasefire in return for the imposition of *sharia* law. And in the tribal agency of Bajaur, it has declared a "victory" that looks like another accommodation with the extremists.

If there is any good to come out of the Lahore carnage, it may be the sense of "humiliation" that many Pakistani commentators are voicing. But after such a litany of horror, it seems too much to hope that disruption to the revered rituals of a cricket series may shock politicians and soldiers into a belated realisation of the depth of the dangers facing Pakistan.

The other South Asian atrocity

Outrage, and sympathy for the intended victims, should in the meantime not distract attention from the grave and imminent danger facing Sri Lanka itself. A humanitarian catastrophe is unfolding in the north of the country as the army closes in on victory in its 26-year war with Sri Lanka's own terrorist extremists, the Tamil Tigers (see article). As the outside world urges Pakistan to do more to tackle its terrorists, it should also be urging the Tigers and Sri Lanka's government to remember their responsibilities to safeguard the lives of the civilians whose loyalties they claim to be fighting over.

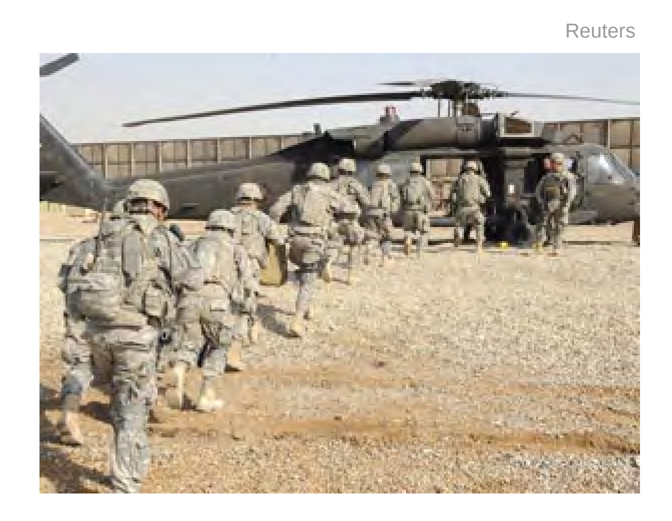
America and Iraq

Take them home responsibly

Mar 5th 2009
From The Economist print edition

President Obama is right to be flexible about the pace of America's departure from Iraq

Reuters



IT IS six years ago this month since American forces invaded Iraq and toppled Saddam Hussein, only to see their victory sour as the country descended into a hell of sectarian killing. Barack Obama, who opposed the war from the start and campaigned for the presidency on a promise to end it, has begun to fulfil his promise. In a speech last week he said the bulk of American troops would withdraw by September next year. But because that is a trifle later than his original promise of getting them out within 16 months of taking office, and because he says he may keep up to 50,000 soldiers in Iraq (for training but also for "counter-terrorism") even longer, he is being accused by some of slithering away from his campaign pledge.

In fact the plan looks both shrewd and responsible. Under an agreement signed by Iraq's government and George Bush, all American troops were anyway scheduled to withdraw from Iraq by the end of 2011, and from its towns by the end of June this year. Mr Obama will extract the bulk of American forces a shade faster, but by keeping on a residual force he is giving himself a bit of extra wiggle room in case things go bad again. He is entirely right to do so.

Iraq is in an incomparably better state than it was two years ago, when some 3,500 Iraqi civilians were being killed every month, mostly by Iraqis. Now the monthly death toll may be ten times smaller. A month ago, provincial elections were successfully held across the country, except in the Kurdish region and a disputed province, Kirkuk. The outcome in terms of winners and losers was messy, but the trend was hopeful.

A new alliance led by the authoritarian but canny prime minister, Nuri al-Maliki, did well. Politicians and parties who argued for a more strongly centralised state, as Mr Maliki did, fared better than those who urged devolution for the regions. Religious parties and the hitherto leading Shia one, the Islamic Supreme Council of Iraq, better known as ISCI, which many Iraqis think too close to Iran, did dreadfully, losing ground to more secular and nationalist rivals. The Kurds did badly in mixed areas where they had previously prospered. Iraq's Sunnis turned out in greater numbers than before and recovered their clout in various provinces, including Nineveh, whose main city, Mosul, had previously been run by Kurds. Here and there, efficient former Baathists came back to the fore.

A problem shared

And yet politics in Iraq is still fraught. No politician successfully appeals to all Iraqis. That is why General

David Petraeus, the architect of America’s successful military “surge” under Mr Bush, has always called the gains fragile. The Kurds, after enjoying almost untrammelled autonomy for nearly two decades, increasingly loathe Mr Maliki’s new establishment in Baghdad; their feeling is reciprocated. Rivalries within each of the three main communities—Shia, Sunni, Kurd—are bitter. A vital law to share out the country’s oil wealth still shows no sign of being passed. The next political watershed, a general election by the end of the year, will be a nerve-jangling event, and American troops will be needed to help oversee it.

Having campaigned against the war in Iraq while emphasising the need to do more in Afghanistan, Mr Obama will face a continuing temptation to end the former war while reinforcing the latter. And that may be possible, thanks to Mr Bush having supported the surge when many people, including Mr Obama, were urging America to cut and run. But America’s moral responsibility to the people of Iraq, and its own interest in maintaining stability in this strategic corner of the Middle East, have not disappeared with the departure of Mr Bush.

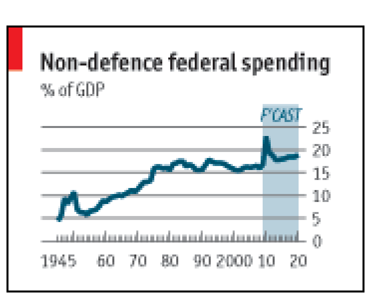
One way Mr Obama could lighten America’s burden would be to use the goodwill he has earned around the world to urge international bodies, especially the United Nations, to play an ever bigger part in helping the Iraqis to entrench their shaky democracy. For sure, his eyes will focus more keenly in the near future on Afghanistan-Pakistan, not to mention Israel, Palestine, Syria and Iran (see article). But he must be ready, just in case, to keep his troops in Iraq rather longer than he promised during his election, and perhaps even longer than called for in his new plan, if another bloodbath should appear to be in prospect. There would be no shame in doing so. The dishonour would come from abandoning Iraq’s long-suffering people for the sake of a deadline.

Barack Obama's budget

Wishful, and dangerous, thinking

Mar 5th 2009
From The Economist print edition

The president has not explained to Americans that if they want bigger government, they will have to pay for it



A PRESIDENT'S first budget proposal is more than a set of figures. It is also an outline of his philosophy of government. The plan Barack Obama delivered on February 26th envisages an ambitious and costly expansion of the government's role in the lives of Americans. Its centrepiece is a big expansion of state-provided health care—for which he has budgeted $634 billion over the next decade while admitting that yet more will be needed. He will fill in the details in coming weeks (see article) while insisting the plan meets several criteria: it must extend insurance to the 15% of Americans who now lack it, it must help slow the growth in costs, and it must be paid for.

Add increased spending on education, energy and other initiatives, and federal expenditures, excluding defence, would rise to a new high of 18% of GDP in the coming decade. Small-government conservatives fume, yet this is what Mr Obama victoriously campaigned on and, at least in the case of health care, what Americans seem to want. The ranks of the uninsured have grown as care becomes more expensive and more employers, through whom most workers get insurance, drop or curtail benefits. Losing a job often means losing health insurance too, making unemployment doubly traumatic.

Although Mr Obama's revenue plans are not clad in the ambitious rhetoric of his spending initiatives, they are just as profound. To pay for his plans and get the deficit down to manageable levels, he would return top tax rates to where they were before George Bush cut them, extract more from the rich by capping their deductions, increase taxes on corporations and auction carbon-emission permits. At the same time, he promises permanent tax cuts for 95% of workers.

Sadly, these plans are deeply flawed. First, Mr Obama's budget forecasts that the economy will shrink 1.2% this year then grow by an average of 4% over the following four years. It might if the economy were to follow a conventional path back to full employment. But this is not a conventional recession. The unprecedented damage to household balance sheets could well result in anaemic economic growth for years, significantly undermining the president's revenue projections. The economic outlook continues to darken and the stockmarket has already tumbled to 12-year lows. Mr Obama may either have to renege on his promise to slash the deficit to 3% of GDP in 2013 from more than 12% now, rein in his spending promises or raise taxes more.

Second, Mr Obama's scattershot tax increases are a poor substitute for the wholesale reform America's Byzantine tax code needs. Limiting high earners' deductions for mortgage interest, local-government taxes and other things is certainly more efficient than raising their marginal tax rates even more. But it would be better to replace such deductions for everyone with targeted credits, abolish the alternative minimum tax (an absurd parallel tax system that ensnares a sizeable chunk of the upper middle class), and implement a broad sales tax. Rather than simply eliminating the sheltering of corporate income from abroad, Mr Obama could have broadened the corporate tax base and lowered the rate. In sum, Mr Obama could simultaneously raise more revenue and make the tax code simpler and more conducive to growth. But he hasn't.

Tell it like it is

Finally, by asking only the richest 2% of Americans to pay more, Mr Obama is building his vision of a more activist government on a shaky foundation. Mr Bush's tax cuts raised the proportion of American families that pay no federal income tax (or are net recipients of tax credits) from 33% to 38%; Mr

Obama's will raise it to 44%, according to the Tax Policy Centre, a research group. Although many of these people do pay payroll taxes, Mr Obama is also intent on reducing the link between payroll taxes and the pension and health-care benefits they were supposedly designed to pay for. It certainly makes sense to keep poor people off the income-tax rolls, but removing a sizeable chunk of the middle class weakens the political bond between taxpayer and government, and will lead to pressure for more such spending.

Mr Obama's team rightly points out that Mr Bush's tax cuts disproportionately benefited the wealthy at a time when their share of income was anyway rising for more fundamental reasons. But the recession is already undoing some of the rise in inequality as the capital gains, bonuses and Wall Street profits that fuelled much of the gains in top incomes turn to dust. This could further imperil Mr Obama's revenue projections, if the rich people he is relying on to pay virtually all his bills end up a lot less rich than they were. Much as Mr Obama would like to shield the middle class, he needs to level with Americans: if they want a bigger government, one that will help them in all sorts of ways, they should be prepared to pay for it.

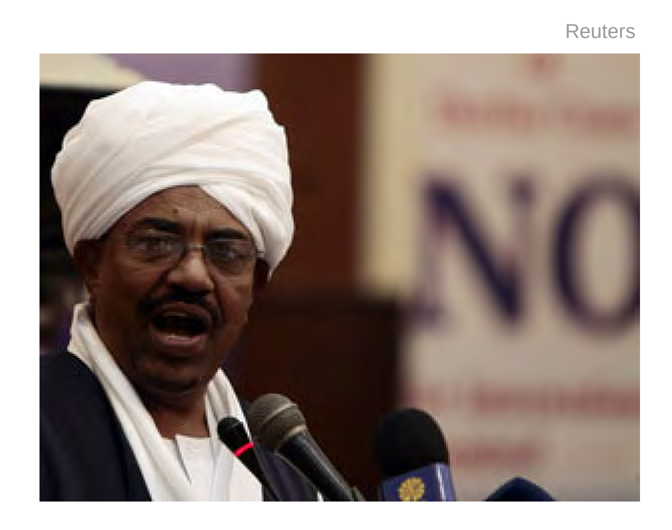
International justice

A warrant for Bashir

Mar 5th 2009
From The Economist print edition

Can Sudan's serving head of state really be brought to justice for his alleged crimes in Darfur?

Reuters



A TRIUMPH for justice or a blow to peace in Sudan? The warrant issued by the International Criminal Court (ICC) for the arrest of Sudan's president, Omar al-Bashir, on charges of crimes against humanity and war crimes—the court's first against a sitting head of state—grimly spells out the suffering of the people of Sudan's western region of Darfur: murder, extermination, torture, rape, pillage, the forcible transfer of people and deliberate attacks on civilians. Since 2003 some 300,000 Darfuris have died as a result of the conflict and around 2.7m have been forced from their homes. A third count, of genocide, was struck down, but Mr Bashir can take no comfort. Give us more evidence, said the ICC judges, and we'll restore it.

Mr Bashir is defiant. So too are many African leaders, who seem to show more solidarity with perpetrators than with victims. Yet not all opposition to the ICC's warrant is craven. Some fear that attempts to bring Mr Bashir to justice could increase the violence in Darfur and threaten an already fragile, separate peace deal between north and south Sudan.

Sudan's expulsion of aid agencies following the indictment shows that the danger is real. Where justice has to be weighed against the urgent need to end violence, peace must sometimes come first. That is why the UN Security Council can suspend cases brought before the ICC. At one point it seemed that the stick of indictment and carrot of suspension could make Mr Bashir soften his war on the Darfuris. To that end envoys have jetted to Khartoum from all corners of the globe, including China, one of his chief backers. UN and African Union emissaries and peacekeepers have tried to prevent further atrocities by his forces and government-backed militias and to hold the ring for peace talks. The Security Council first discussed sanctions, then last year the possibility of deferring the case against Mr Bashir. Had he reined in the attacks, co-operated better with peacekeepers and the court and tried peacemaking, he might have wriggled off the ICC hook. He didn't bother.

So what now?

One hope is that the ICC's indictment will persuade Mr Bashir's subordinates to hand their boss over to The Hague (see article). The other, more plausible, is that he will himself at last mend his ways, in return for the Security Council deferring the case. But neither is likely to occur unless there is widespread international support for the court. All 108 governments that have ratified its statutes are duty-bound to try to bring Mr Bashir to justice. But so should the powers on the Security Council, including America, China and Russia, which are not ICC members: the council referred Darfur to the ICC for investigation,

and should now back the arrest warrant too. The more countries back the court, the less likely Mr Bashir is to continue his defiance or take revenge on Darfuris.

America in particular needs to abandon its past hostility to the ICC. George Bush at first set out to destroy it: "unsigning" the Rome treaty that set up the court, strong-arming governments to exempt Americans from its proceedings and threatening to spring them by force, if need be, from the ICC's clutches. Yet when it came to Darfur, even Mr Bush accepted that an independent international court had a useful role: America wanted Mr Bashir brought to justice and so withheld its veto, allowing the case to go to the ICC for investigation.

Barack Obama could go further by tearing up the infamous unsigning letter, joining the discussion about the court's future and inviting Congress to align America's laws, especially on crimes against humanity, with the ICC's new gold standard of international justice. That would leave the ICC to look after the Bashirs of this world, and America to look after its own.

Climate change

The illusion of clean coal

Mar 5th 2009
From The Economist print edition

The world is investing too much cash and hope in carbon capture and storage

Illustration by Belle Mellor



“FACTORIES of death” is how James Hansen, a crusading American scientist, describes power stations that burn coal. Coal is the dirtiest of fossil fuels, producing twice the carbon dioxide that natural gas does when it is burned. That makes it a big cause of global warming.

But some of the world’s biggest economies rely on coal. It provides almost 50% of America’s and Germany’s power, 70% of India’s and 80% of China’s. Digging up coal provides a livelihood for millions of people. And secure domestic sources of energy are particularly prized at a time when prices are volatile and many of the big oil and gas exporters are becoming worryingly nationalistic. It is hard to see how governments can turn their backs on such a cheap and reliable fuel.

There does, however, seem to be a way of reconciling coal and climate. It is called carbon capture and storage (CCS), or carbon sequestration, and entails hoovering up carbon dioxide from the smokestacks of power plants and other big industrial facilities and storing it safely underground, where it will have no effect on the atmosphere. The technologies for this are already widely used in the oil and chemical industries, and saltwater aquifers and depleted oilfields offer plenty of promising storage space. Politicians are pinning their hopes on clean coal: Angela Merkel and Barack Obama, among others, are keen on the idea.

But CCS is proving easier to talk up than to get going (see article). There are no big power plants using it, just a handful of small demonstration projects. Utilities refuse to make bigger investments because power plants with CCS would be much more expensive to build and run than the ordinary sort. They seem more inclined to invest in other low-carbon power sources, such as nuclear, solar and wind. Inventors and venture capitalists, in the meantime, are striving to create all manner of new technologies—bugs for biofuels, revolutionary solar panels, smart-grid applications—but it is hard to find anyone working on CCS in their garage (although some scientists are toying with pulling carbon dioxide directly out of the air instead of from smokestacks: see Technology Quarterly in this issue). Several green pressure groups, and even some energy and power company bosses, think that the whole idea is unworkable.

With the private sector sitting on its hands, Western governments are lavishing subsidies on CCS. Some $3.4 billion earmarked for CCS found its way into America’s stimulus bill. The European Union, which already restricts greenhouse-gas emissions through a cap-and-trade scheme, unveiled further incentives for CCS last year. Britain, Australia and others have also vowed to help fund demonstration plants partly because they reckon the private sector is put off by the huge price-tag on a single CCS power plant, and also in the belief that the cost of CCS will fall with experience.

Burning cash

The private sector, however, is reluctant to fork out not just because of the upfront cost of power plants, but also because, tonne for tonne, CCS looks like an expensive way of cutting carbon. The cost of it may fall, but probably not by much, given the familiarity of the technologies it uses.

Politicians should indeed encourage investment in clean technologies, but direct subsidies are not the way to do it. A carbon price or tax, which raises the cost of emitting carbon dioxide while leaving it up to the private sector to pick technologies, is the better approach. CCS is not just a potential waste of money. It might also create a false sense of security about climate change, while depriving potentially cheaper methods of cutting emissions of cash and attention—all for the sake of placating the coal lobby.

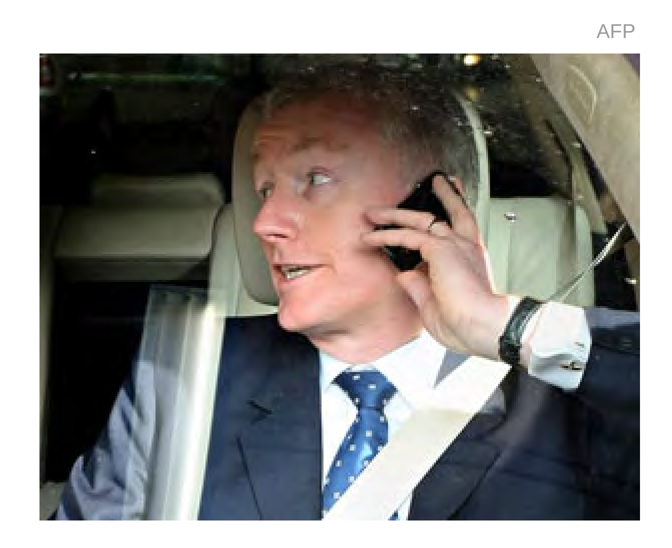



Scapegoat millionaire

Mar 5th 2009
From The Economist print edition

Sir Fred Goodwin is a bad banker and a dishonourable man; he is also a dangerous distraction

AFP



IN THE decade Sir Fred Goodwin spent at the top of the Royal Bank of Scotland, RBS went on an acquisition spree culminating in the disastrous purchase of ABN AMRO, a Dutch bank. The result was a record loss for a British firm and a government bail-out that could cost taxpayers many billions of pounds. To the fury of public and politicians alike, Sir Fred insists that he is entitled to his full pension of over £700,000 ($980,000) a year, due at once although he is only 50. Appeals to Sir Fred's sense of honour have yielded about as much as an RBS share.

Natural justice demands that Sir Fred be stripped of his dosh, for if the government had not stopped RBS from going bankrupt, his pension would have been paid out of the pension-protection fund, at the princely rate of £28,000 a year, at the age of 65. The government rescued RBS only because the public needs the bank to supply credit and to provide a payments system. As the failed chief executive of a bank that was judged too big to fail, Sir Fred is an accidental multimillionaire.

Unfortunately, the relationship between natural justice and the law is sometimes tenuous, as it is in this case. The bank's remuneration committee agreed to Sir Fred's massive bung as part of the negotiations to get rid of him, and the government did not try to reduce it when it rescued the bank. Sir Fred has a contract and, although this has not been tested in court, it looks as if the £700,000 is his, whether he deserves it or not. Harriet Harman, the ambitious deputy leader of the governing Labour Party, has spluttered that the contract is "not enforceable in the court of public opinion". But vague threats of retrospective legislation are a terrible idea. Clawing back Sir Fred's millions would mean that every controversial contract had a political risk premium built into the price—a poor deal for the economy. Uncertainty is eroding commercial confidence as it is, without the government trashing contract law.

If Ms Harman's vainglorious nonsense ends up driving investment and business away from Britain, her ego may yet cost taxpayers more than Sir Fred's pension. And it gets worse than that. Hurling abuse at Sir Fred and the amount of money he is trousering might seem harmless. But the amount of attention that Britain is devoting to this subject is worrying.

At last, a witch hunt with a witch

It's all too handy for the government. Although politicians made the mistakes that allowed Sir Fred to get away with his cash, the row sustains the comfortable fiction that the government's sensible policies were

traduced by greedy bankers. It’s handy, too, for the media. The economic crisis is too complicated to explain to most readers. Collateralised debt obligations and credit default swaps don’t sell papers. Flogging bankers in public, by contrast, is a sport that everybody can enjoy. For Britain’s future, though, Fred-bashing bodes less well. Avoiding future disasters means allocating blame accurately; and most of it lies with bad policy, not with greedy bankers. More immediately, the furore is getting in the way of saving the system.

Consider the problems Britain faces. The world economy is in the grip of the most severe recession since the 1930s. Banks are ailing and manufacturing industry is collapsing. Consumers have lost much of their wealth and unemployment is climbing. Economic nationalism is growing. Oh, and one greedy, incompetent banker has got his mitts on some undeserved millions. Spot the odd one out.

On South Korea, the Czech Republic, English, ignorant politicians, liberalism, politeness, subprime loans, Antarctica, water

Mar 5th 2009
From The Economist print edition

South Korea's debt

SIR – Your article about "emerging-market contagion" ranked countries according to their vulnerability to the global credit-crunch (Economics focus, February 28th). But you did not reflect the actual situation of the Korean economy. The article portrayed South Korea as the joint third-riskiest among the countries surveyed, citing "large short-term foreign debts and highly leveraged banks". This is simply not the case.

Let me provide you with accurate figures. South Korea's short-term external debt is 75% of its foreign-exchange reserves and it continues to decline. The South Korean banks' average loan-to-deposit ratio stood at 118% as of the end of 2008 and has been on the decrease since last June.

Thus, the overall risk assessment for the Korean economy, as described in your article, relies upon incorrect information and estimates.

Cheol-kyu Park
Spokesperson
Korean Ministry of Strategy and Finance
Seoul

Editor's note: *Our figure for short-term debt as a percentage of foreign-exchange reserves included all debt due within the next 12 months, the definition favoured by the IMF. At the end of December this was 96%. The figure of 75% includes only liabilities with an original maturity of up to one year; it excludes maturing long-term debt. Our loan-to-deposit ratio covered all commercial and specialised banks and excluded certificates of deposits, the same definition used for all the countries we surveyed. The Bank of Korea's latest figures show this to be 136% at the end of December.*

The Czech economy

SIR – One of your recent leaders on east and central European economies included the Czech Republic among those countries whose "tumbling" currencies have increased the "agony for households that have mortgages in Swiss francs or euros" ("Argentina on the Danube?", February 21st). Actually, there are almost no households in the Czech Republic that have mortgages or any other loans denominated in foreign currency.

The foreign-currency borrowing of Czech households is a negligible 0.1% of total household loans, which anyway are very low by any standard, totalling 25% of GDP or 30% of the financial assets of households. The behaviour of Czech households is a direct consequence of the fact that Czech koruna interest rates have been mostly below euro ones in recent years, and koruna-denominated mortgage loans have been the least expensive in the European Union.

Furthermore, although Czech banks are mostly owned by European groups, they have never needed credit from abroad since they financed their loans from the domestic deposits of Czech savers. The loan-to-deposit ratio of the Czech banking sector is currently 77%, among the lowest in the EU, and Czech banks are mostly net creditors of the European groups they belong to.

Miroslav Singer
Vice-governor
Czech National Bank
Prague

Language and trade

SIR – Charlemagne lamented the fact that English has arisen as the main language that Europeans choose to learn while Anglophones remain monolingual (February 14th). In his gloominess, Charlemagne missed an important point: the linguistic unification of Europe can yield economic returns in addition to the cultural and social ones enjoyed by those of us who speak English, whether or not it is our first language.

In a recent paper, we found that bilateral trade between European countries depends positively on the probability that two randomly chosen individuals, one from each country, would be able to communicate with each other in English. We predicted that if knowledge of English in all European countries increased by ten percentage points, European trade would rise by up to 15% on average. Bringing all European countries up to the level of English proficiency enjoyed by the Dutch could increase European trade by up to 70%.

This comes close to the gains reckoned to accrue from adopting the euro. But unlike joining the euro and having to give up your currency, you need not give up your own language to use English. Our analysis does not hinge on English enjoying official-language status across Europe, only that Europeans are able to speak it well.

Jan Fidrmuc
Senior lecturer in economics
Brunel University
London

Jarko Fidrmuc
Professor of political economy
University of Munich
Munich

Blissfully unaware

SIR – Bagehot bemoaned the "spiral of ignorance" and lack of knowledge among British politicians about the financial crisis (February 21st). Unfortunately this is, and will continue to be, an institutional problem. Research commissioned by the Industry and Parliament Trust in 2008 discovered that just 13% of Members of Parliament have ten years' or more business experience, and 86% of business leaders say that "too often, legislation is passed with insufficient regard to its impact on business."

The fact remains that many parliamentary candidates in recent decades are career politicians and lack in-depth financial experience. In the present economic environment our policymakers must be able to understand complex financial issues, rather than behave in such a way that is "panicky and confused".

Sally Muggeridge
Chief executive
Industry and Parliament Trust
London

SIR – Without defending government ministers for their lack of understanding, it appears that most professions are befuddled by the economic situation, particularly economists.

Harry Whitbread
London

A liberal president

SIR – Your review of Alan Wolfe's "The Future of Liberalism" stated that "Barack Obama shuns the L-word" ("Anatomy of an idea", February 7th). The index to Mr Obama's book, "The Audacity of Hope", contains 16 references to liberals or liberalism, including one to his mother who "would proudly proclaim herself an unreconstructed liberal". It seems to me that he doesn't shun the L-word very well.

David Rice
London

It pays to be polite

SIR – I read your article on how the economic crisis has prompted "an outbreak of politeness" in the business world ("Manners maketh the businessman", February 14th). As a huge fan of your brilliant publication, I am very surprised not to fully agree for once with one of your amazingly accurate analyses.

You say, in a very skilful way I must add, that "civility is the new rule in an uncertain world". But all the characteristics you mentioned, "niceness", "civility", "cordiality" and so on, could be construed as mere hypocrisy if they are not altruistic in intent. Maybe you recognise this when you conclude that "as soon as things turn up again, all agree, the extra niceness will vanish", a sentence that is, once again, very well put.

Gregory Blain
Paris

SIR – As a recent subscriber to your newspaper, I find that you are a bunch of insufferable know-alls, and there is nothing worse than a know-all who is sometimes right.

A.F. Bradley
Coupeville, Washington

The following letters appear online only

More on English-speakers in Europe

SIR – For a brief historical period, the coincidence of English emerging as the international lingua franca, alongside its poor mastery in many non-Anglophone countries, may have encouraged native English-speakers to assume that they enjoyed a comparative advantage. That advantage, as you point out, is fast disappearing. In an increasingly global world, the "rational" employer will, all else being equal, hire the graduate with a good degree and the ability to speak two or more languages, including English, over another graduate with a similar diploma but who is linguistically challenged. The rational student will be the one who understands where the rational employer is coming from.

Bruno della Chiesa
Koji Miyamoto
Globalisation and linguistic competencies project
OECD
Paris

Subprime loans

SIR – Phil Gramm trades politics for reality and he uses your letters page to do it (Mr Gramm's letter appeared online only on February 26th). Although it is convenient to blame the financial crisis on subprime loans, ie, loans to the weak, vulnerable and quiet, the fact is that only 2% of homes have gone into or are in foreclosure. Even assuming that every subprime loan is in foreclosure, and every foreclosure is a subprime loan, the question is: How can all of these securitisations be brought down by such a small percentage of assets if the maths did not in fact fail?

Fraud, greed and chickens coming home to roost are to blame, not working-class Americans. Republican policies of encouraging unsustainable debt and homeownership should be put on trial, not struggling Americans. Let us remember the words of George W. Bush: "I believe owning something is a part of the American dream, as well. I believe when somebody owns their own home, they're realising the American dream."

Ady Adefris

Tokyo

Voyage of discovery

SIR – Your article on Antarctic tourism made some valid points about the challenges faced by cruise ships ("Waiting for another Titanic", February 14th). Unfortunately, you chose to illustrate your piece with a photograph of the *Kapitan Khlebnikov*, the only passenger-carrying polar-class icebreaker sailing Antarctic waters. *Khlebnikov* is a highly specialised ship and is purpose-built for high latitudes. It has circumnavigated Antarctica twice and, while carrying passengers, has helped to clear channels for supply ships.

As you suggested, wise travellers to Antarctica should carefully consider their choice of vessel. Choosing *Khlebnikov* proves that neither of the species in your accompanying photo is in fact "stupid".

Patrick Shaw
President
Quark Expeditions
Norwalk, Connecticut

Water, water, everywhere

SIR - Although the taste is rather similar, my Church's shoes have held out after 25 years of hard usage, while the average hamburger survives for less than five minutes. Readjusting your daily chart (February 25th) on the amount of water required to produce various goods to a daily-utility scale gives me 1.6 litres for my shoes and 4.3 million litres for the hamburger. Pass the ketchup.

Simon Goodman
Senior scientist
Merck-Serono research and development
Darmstadt, Germany

Dealing with drugs

On the trail of the traffickers

Mar 5th 2009 | MEXICO CITY
From The Economist print edition

Illegal drugs are causing havoc across the world. Over four articles, we look at attempts to curb supply and cut demand, beginning in Mexico

Eyevine



IN RECENT months Mexicans have become inured to carefully choreographed spectacles of horror. Just before Christmas the severed heads of eight soldiers were found dumped in plastic bags near a shopping centre in Chilpancingo, the capital of the southern state of Guerrero. Last month another three were found in an icebox near the border city of Ciudad Juárez. Farther along the border near Tijuana police detained Santiago Meza, nicknamed El Pozolero ("the soupmaker") who confessed to having dissolved the bodies of more than 300 people in acid over the past nine years on the orders of a local drug baron. Mr Meza, revealing a proper sense of machismo, added primly that he refused to accept the bodies of women or children.

"Organised crime is out of control," Felipe Calderón declared on taking office as Mexico's president in December 2006. He launched 45,000 army troops against drug-trafficking gangs. Since then, some 10,000 people have died in drug-related violence, 6,268 of them last year. Troops and police have fought pitched battles against gangsters armed with rocket-launchers, grenades, machineguns and armour-piercing sniper rifles, such as the Barrett 50. But perhaps their most effective weapon is corruption: in November Noe Ramírez, the prosecutor in charge of the organised-crime unit of the federal attorney-general's office, was charged with taking bribes of $450,000 a month to pass information to the Sinaloa drug mob. Six other officials from the unit face similar charges.

Officials insist that the violence and the arrests are signs that they are winning. But many disagree. An assessment by the United States' Joint Forces Command, published last month, concluded that the two countries most at risk of becoming failed states were Pakistan and Mexico.

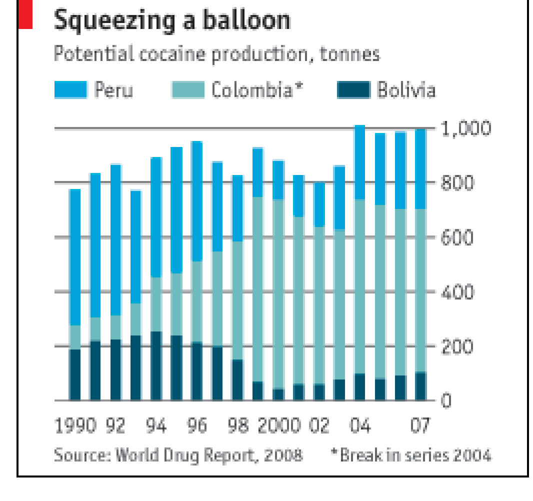
Mexico? The world's twelfth-largest economy, the United States' second-biggest trading partner and an important oil supplier? It has evolved in the past generation into a seemingly stable democracy. Sure enough, the prognosis was angrily rejected by Mexico's government. But it came on the heels of a paper circulated by Barry McCaffrey, a retired general who was Bill Clinton's "drug tsar". General McCaffrey painted a grim picture in which "the dangerous and worsening problems in Mexico…fundamentally threaten US national security." The stakes in Mexico were enormous, he concluded: "We cannot afford to have a narco state as a neighbour."

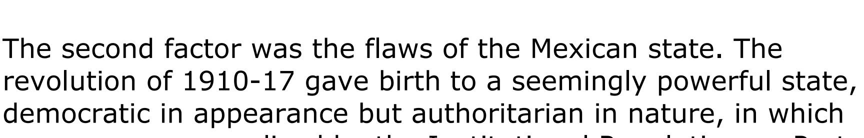
If this was intended to press the panic button, it seemed to succeed. On January 12th Barack Obama lunched for more than two hours with Mr Calderón in his first meeting with a foreign head of government since he was elected president of the United States. According to a Mexican official present, Mr Calderón proposed a "strategic partnership" and urged the setting up of a binational group of experts to explore closer security co-operation. That would go beyond a three-year $1.4 billion programme of security aid for Mexico and Central America, known as the Merida Initiative, which was approved (reluctantly) by the United States Congress last year. Like it or not, in the cause of the war on drugs the Obama administration looks likely to be drawn into a sustained security commitment to a neighbour of the kind Mr Clinton launched in Colombia.

In both Mexico and Colombia, though in different ways, the drug trade has exploited weaknesses in the capacity of the state to impose the rule of law. In Colombia, where an historically fragile state had long failed to impose its authority over a vast territory of difficult geography, drug income breathed new life into left-wing guerrilla movements and begat right-wing paramilitary militias. As the guerrillas threatened to overrun the army and the cities, Mr Clinton launched Plan Colombia, under which the United States trained and helped to equip the security forces at a cost of more than $6 billion since 2000.

In one respect—counter-insurgency—Plan Colombia has been a big success. The United States added hardware and training to a big Colombian effort that has strengthened the state and made the country much safer. But as an anti-drug programme, it has been much less successful. Thanks to the adamantine efforts of Álvaro Uribe, Colombia's president, which included spraying hundreds of thousands of hectares with weedkiller, the recorded area of coca seemed to fall by more than half between 1999 and 2006, according to United Nations estimates. But it has since risen again. And thanks to productivity increases, total cocaine production in the Andes remains stable (see chart).

When cocaine consumption first took off in the United States in the 1970s and 1980s, the main smuggling route involved island-hopping across the Caribbean from Colombia in light aircraft. It was the success of America's drug warriors in shutting down this route that brought big-time organised crime to Mexico, as the Colombians began to send drugs that way. In Mexico, relatively small gangs had long run heroin and marijuana across the border. Their move into cocaine made them far more powerful. Two things helped them grow. The first was proximity to the United States. They gained control of retail distribution in many American cities, allowing them to dictate terms to the Colombians. And they continue to arm themselves with ease in American gunshops and launder their profits in American banks.





The second factor was the flaws of the Mexican state. The revolution of 1910-17 gave birth to a seemingly powerful state, democratic in appearance but authoritarian in nature, in which power was monopolised by the Institutional Revolutionary Party (PRI). One of the achievements of this system was eventually to take the army out of politics. The police were required merely to impose political order, not to solve crimes. State governors were happy to tolerate—or profit from—drug-traffickers on their patch provided they kept a low profile. Partly because the Colombians at first paid their partners in product, the Mexican gangs began to push cocaine at home. In some areas, especially in northern Mexico, they acquired de facto control. The politicians did little to stop them—until Mr Calderón decided to make security the priority of his government, and a matter of personal commitment.

Taking back the street

The aim, says Eduardo Medina Mora, Mr Calderón's attorney-general, is not to end drug-trafficking "because that is unachievable." Rather, it is "to take back from organised criminal groups the economic power and armament they've established in the past 20 years, to take away their capacity to undermine institutions and to contest the state's monopoly of force."

He points to progress. In the past two years the government has seized huge quantities of drugs (some 70 tonnes of cocaine, including 26 tonnes in a trawler, a world record for a single haul), money (some $260m) and arms (31,000 weapons, including 17,000 of high calibre). It has also made more than 58,000 arrests; and though some 95% of these people are hangers-on or small-time drug-dealers, they include two-dozen kingpins and a thousand *sicarios* (hired gunmen).

Brushing aside nationalist scruples, Mr Calderón has stepped up the extradition of drug-traffickers to the United States, sending more than 180 north so far. They can't go on running their businesses from American prisons, as they can from most Mexican ones. Until recently the drug lords lived openly in Mexico's main cities. Now they can show their faces only in remote parts of the Sierra Madre, says Genaro García Luna, the minister for public security.

The violence, officials say, is a sign that the drug gangs are turning on each other in a fight to hang on to a share of a shrinking business. They stress that around 60% of the killings are concentrated in just three of Mexico's 32 states, and most of these in three cities: Ciudad Juárez in Chihuahua and Tijuana in Baja California, both just across the American border; and Culiacán in Sinaloa. Some four-fifths of the dead are members of criminal gangs murdered by other criminals. But more than 800 police and soldiers have also died since December 2006 (some may have been working for the traffickers). The beheadings (often carried out after the victim is dead) and torture are intended to enforce discipline within gangs and strike fear into rivals, Mr García Luna says. Despite the headlines, Mexico's murder rate is relatively low, at 11 per 100,000 people.

But the violence provokes "bewilderment and surprise" among Mexicans, says Enrique Krauze, a historian. After the revolution Mexico became "an island of peace, where refugees came from all over the world to escape violence." Several senior police officers, including last year the commander of the federal police, have been murdered by the traffickers. On September 15th eight people died when grenades were thrown at crowds celebrating independence day in Morelia, in Michoacán. In Tijuana ordinary citizens are scared by the violence going on around them. People are going out less at night, and avoiding the city's better restaurants after several cases in which gunmen have burst in and shot a rival, says José María Ramos, a political scientist at the Colegio de la Frontera Norte. And few doubt that the violence just across the border is deterring investment and tourists from the United States.

Mr Calderón's crackdown has inflicted serious disruption on Mexico's main trafficking syndicates (see map). As many of the historic *capos* of these gangs are killed, arrested or extradited, what was an oligopoly has splintered into warring factions. This fragmentation is not wholly positive, admits Mr Medina Mora.



The biggest worry is that some drug gangs are starting to diversify into other criminal businesses. Extortion and protection rackets are suddenly becoming common. Shops and bars have been burned down in Ciudad Juárez. Over the past six months, big businesses, including multinationals, have become targets, with threats against warehouses and factories if payments are not made, according to a security consultant in Mexico City. This is still local and sporadic, but at least one American company has paid up, he says.

The second growth business is kidnapping. This is not new in Mexico. It tends to go in cycles. Many cases are not officially reported. But the number recorded by Mexico Unido Contra la Delincuencia ("Mexico

United Against Crime"), a campaign group, rose sharply over the past two years before falling off in recent months, according to María Elena Morera, its director. And kidnaps are tending to become more violent. They account for only 1% of crimes, yet in one poll 46% of respondents say they are scared of them, says Mrs Morera. The talk among better-off Mexicans is suddenly of whether they should try to leave the country rather than risk their children being kidnapped.

The underlying problem in Mexico is not drug-trafficking in itself, but that neither the police nor the courts do their job properly. Not only have the police themselves sometimes been a source of crime, but they are also not accountable to politicians or public. A survey in 2007 found that seven out of ten crimes are not reported. "Society and the police don't work together," says Ernesto López Portillo, of the Institute for Security and Democracy. Mr García Luna admits that in some parts of the country the traffickers have established a "social base". The previous two Mexican presidents tried and failed to reform the police. Mr Calderón's officials insist that this time they will succeed.

At the headquarters of the public-security ministry on a hill opposite Chapultepec wood in Mexico City, cranes rise above a vacant lot where a new National Intelligence Centre is being built. The government's more immediate innovation is housed in an annexe next door. A score of police officers dressed in dark suits sit at computer terminals facing a giant, segmented screen that occupies the whole of the wall in front of them. They are keying in data for Platform Mexico, an integrated and searchable national database that will combine criminal records with police operations' reports and is due to start up in June. The screens can also display images from closed-circuit television across the country. The operators can communicate with every police post and patrol car in Mexico. Across the city in Ixtapalapa, the police's main operating base in the capital is now equipped with helicopters and rapid-response teams. Eventually each state will have similar centres.

The curse of federalism

Mexico may lack Colombia's guerrillas, but it also lacks Colombia's reasonably effective national police force. That is partly because it is a federal country: each of the 32 states has its own police force and justice department, and there are more than 1,600 municipal police forces. Under the PRI federalism was a legal fiction and the presidency was omnipotent. Now no state governor feels obliged to submit to Mr Calderón's policies. The criminal law is a patchwork: drug-trafficking is a federal crime, but kidnapping is a state matter. To make matters worse, the federal government began to forge its own police force from a disparate bunch of security outfits only as recently as the 1990s. An attempt to turn the judicial police, attached to the attorney-general's office, into a Mexican FBI (known by its initials as AFI) had mixed results: the organisation was corrupted when purged police used legal action to force their reinstatement.

Mr Calderón's government is making a far more serious effort. Last June a constitutional reform reorganised the courts and police; under its auspices, a law signed by the president on January 1st sets up a new national public-security system. It requires all police forces at national, state and municipal level to adopt uniform procedures for recruitment, vetting, training, promotion and operations. Every policeman in the country is now supposed to be exhaustively vetted. At the same time, the federal police force has expanded from 9,000 officers in 2006 to 26,000. Half of these are soldiers on secondment. But Mr García Luna is now trying to recruit 8,000 graduates to be the core of a civilian investigative division. The government has provided extra funds to some local police forces. And for the first time it can force them to reform. Another constitutional change aims to improve a hidebound judicial system, introducing oral evidence and moving towards adversarial trials. It builds on recent experiments in some Mexican states.

Eyevine

These efforts have inspired American help, especially in the form of passing on intelligence that has helped in drug seizures and in the arrest of leading traffickers. Under the Merida Initiative, the United States will provide extra kit (such as night-vision gear and metal detectors) and training. Mexican officials point out that the funds involved are puny ($400m a year for three years) compared with the $9 billion they are spending each year. More than the money, Mr Medina Mora says he welcomes the change of attitude. "We've gone from reciprocal finger-pointing to an attitude of shared responsibility for a problem that by nature is bilateral." But he adds that better regulation of the sale of arms in the United States would have a bigger impact. He points out that of 107,000 gunshops in the United States, 12,000 are close

to the Mexican border and their sales are much higher than the average. Thousands of automatic rifles are bought for export to Mexico, which is illegal. American officials have promised to do more to stop this.



Supply meets demand

Mr García Luna says that in the next few months Mexicans will start to see a difference, as all the work over the past two years is put into practice. But there are several big doubts. The first is whether the government is moving fast enough. The original plan was to use the army only as a temporary shock force. But the troops may have to be deployed for another two years or more, Mr Medina Mora concedes. In late February the government sent an extra 5,000 troops to Ciudad Juárez, where the police chief had resigned after death threats. The militarisation of public security—however inevitable in the short term—carries the risk that Mexico will still not get the civilian, community-based policing it needs to prevent and investigate crime.

Turf wars are another problem. No fewer than six ministries are involved in different ways in public security, not to speak of the state governors and mayors. Mr Medina Mora, a former businessman, and Mr García Luna, a career policeman, often do not see eye to eye, and the army is politically untouchable. What is needed is to turn the army into a small professional force for external defence and centralise responsibility for internal security in the public-security ministry, argues Raúl Benítez, a defence specialist at the National Autonomous University in Mexico City.

The biggest doubt is whether the government can stop its forces being infiltrated and corrupted. One of the most violent of the drug gangs, known as the Zetas, is made up of special-forces troops who changed sides a decade ago. Hitherto, the government has been unable to provide its police forces with sufficient pay and protection to make it worthwhile resisting the threats and blandishments of the traffickers. Has that changed?

In the end, the state in a country as developed as Mexico cannot lose this battle. "Mexico is not a failed state, it's a mediocre state," says Hector Aguilar Camín, a sociologist. But already there are signs that the drug business will adapt. The Mexican gangs have set up operations in South America and are starting to export to Europe from there, according to Stratfor, a consultancy based in Texas. And they have moved aggressively into Central America. Just like Colombia, Mexico is finding that drug violence is requiring it to modernise its security forces. That process carries a large human cost. And the drug business, ever supple, will adapt and survive.

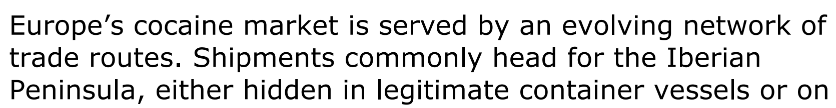
Sniffy customers

Mar 5th 2009
From The Economist print edition

Drug-traffickers are expanding their operations in Europe, despite the best efforts of the police

OUTNUMBERED and outgunned, the sailors raised their hands. About 300km off the west coast of Ireland, the yacht *Dances With Waves* was within hours of delivering a half-billion-euro payload of cocaine to Cork in time for Christmas. The vessel had been under surveillance since setting off from Trinidad and Tobago a month earlier. Inside, Irish police found almost 1.9 tonnes of cocaine. Three British men are now awaiting trial.

Such seizures are getting more common. European forces intercepted some 120 tonnes of cocaine in 2006, more than double the haul they managed in 2001 and nearly six times as much as in 1995. But for every boat that is caught, more slip through. Despite the seizures, the price of cocaine in Europe has been falling (see chart), leading the UN to conclude that its availability has probably increased. At the same time, the number of users has rocketed. In Britain, which recently overtook Spain as Europe's most coke-hungry country, 7.6% of adults claim to have tried it; use has doubled in the past decade. Most rich European countries report a similar picture, especially among the young. Overall, Europe now accounts for 17% of global cocaine seizures. In 1980 the figure was 3%.



Europe's cocaine market is served by an evolving network of trade routes. Shipments commonly head for the Iberian Peninsula, either hidden in legitimate container vessels or on board creaking old "motherships", which loiter out at sea while nimbler craft bring the packages onshore. The traditional hotspot is the north Atlantic coast of Spain, though in recent years traffickers have also targeted Barcelona and Valencia to stay ahead of the police. Some three-quarters of European seizures take place in Spain and Portugal, which also have some of the highest rates of consumption on the continent.

Like any sensible business, drug-traffickers spread their risk: large shipments are complemented with little-and-often supply lines, including parcel post and human mules. That particular ruse has been upset by an advertising campaign run by the police, warning potential mules of the severity of trafficking sentences. Some still risk it, but they now command a fee of around $6,000, compared with the $2,000 they used to do it for. That is enough to make the route unprofitable, police reckon.

But as one route closes, another opens up. In the past four years customs officers have spotted a sharp rise in the amount of cocaine being smuggled into Europe via west Africa. Of those seizures where the origin of the cocaine could be identified, European forces reckon that in 2007 some 22% had been via Africa. As recently as 2004, just 5% had stopped off there. Seizures have risen sharply, too: before 2003, officials had never intercepted more than a tonne of cocaine each year in Africa. In 2006, they nabbed 15 tonnes. Britain and America have beefed up their presence in the region, but the traffickers may already have planned their next move: on February 19th the UN warned that a new supply route was emerging in the Balkans.

From high seas to High Street

In Britain, Europe's biggest consumer of narcotics, the Home Office reckons that drugs are brought in by about 300 major importers, who pass them to 30,000 wholesalers and then to 70,000 street dealers.

Cocaine, meaning both the sniffable powder and smokable “rocks” of crack cocaine (which can be made using a simple microwave), accounts for about half the value of this industry, being less widely taken than cannabis but much pricier.

Some rare light was shed on the business by a Home Office study in 2007, in which 222 drug-dealers were interviewed in prison by analysts from Matrix Knowledge Group, a consultancy, and the London School of Economics. One dealing partnership, based in London and Spain, bought cocaine from a Colombian importer in 10kg bundles, which they sold to retailers using an employee whom they paid £500 ($703) per transaction. A second employee, paid £250 a day, would collect money from the buyers and pass it to a third member of staff, who would count it (processing up to £220,000 each day). Other employees would pay the Colombians and smuggle the rest of the cash, on their bodies, back to Spain.

Most drug businesses are forced to stay small and simple to evade the police. Only one dealer claimed to be part of an organisation of more than 100 people, and a fifth were classified by researchers as sole traders. Fear of being uncovered also hampers recruitment: most dealers stuck to family and friends, and people from the same ethnic group, when hiring associates. Just like other businessmen, they carried out criminal-record background checks on potential employees—except that, in this case, a record was a good thing.

Kevin Marsh, an economist at Matrix Knowledge, argues that most players in the drug business have a poor knowledge of the market. “Shopping around for new wholesale suppliers is risky, so many retailers stick to the same one and pay over the odds,” he says. Most of the dealers interviewed knew little about the purity of what they were buying, and money laundering was usually fairly shambolic. Managing cashflow is one of dealers’ biggest weaknesses, according to one drug specialist at the Serious Organised Crime Agency (SOCA): “Supply of powder is the most resilient thing. To destroy the business, you have to go after the money.” That, and extradite foreign dealers, as America has long done. Britain is believed to be negotiating its first-ever extradition of a Colombian, on drug charges, at the moment.

Times may at last be getting harder for cocaine-dealers. Shortly before Christmas, the wholesale price in Britain shot up to £40,000 per kilo, the highest in years. Better policing was one cause; another was the slump of sterling. European retailers’ margins have been chipped away. To protect their profits, dealers are diluting what they sell. A decade ago, average street-level purity was about 60%; police say it is now nearer 30%. “People think there is a lot of cocaine around, but two thirds of it isn’t cocaine at all,” says one SOCA officer.

That would be fine if the remainder were talcum powder. But in the past few years dealers have turned to pharmaceutical cutting agents such as benzocaine, a topical anaesthetic, which mimic the effects of cocaine and may be more harmful. Dealers call such agents “magic” because of their effect on profits. “Grey traders”, who knowingly sell such chemicals to dealers, are starting to be convicted.

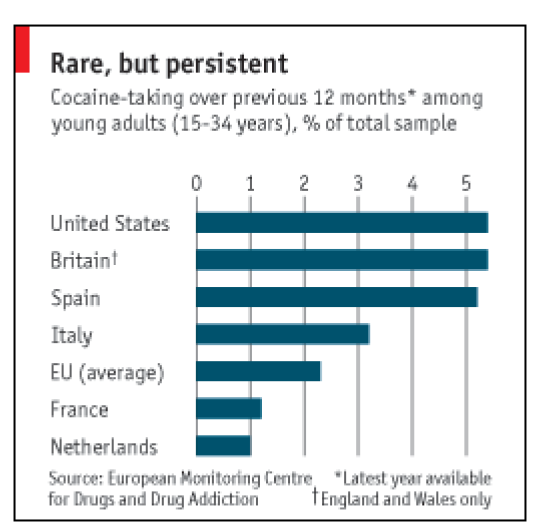
Educating drug-takers about what is getting up their noses may lower demand. But cutting raises bigger questions for drug policy. “We may have to say at some stage that taking heavily adulterated cocaine is more physically harmful to the user than taking cocaine that’s less adulterated,” a senior SOCA official says. “That is not the case at the moment. But we’ve got to keep asking the question. I’m aware that the health equation could one day say: Stop trying to stop cocaine coming in.”

Levels of prohibition

A toker's guide

Mar 5th 2009
From The Economist print edition

Some countries are pushing the boundaries of liberalisation



UNDER a trio of conventions passed by the United Nations in 1961, 1971 and 1988, most countries have little discretion over how they manage drug-taking. Other than for medical or scientific purposes, those that have signed up to the conventions—more than 140 countries to date, including nearly all of the rich world—must maintain the prohibition on the selling and possession of narcotics. Some are enthusiastic in their upholding of the treaties. But others have grown frustrated, and are finding ways of bending the rules.

For the past century the standard-bearer of the prohibition movement has been America, which imprisons more people for drug offences than any other country. But in 13 states the police are instructed not to arrest people for cannabis possession. In Europe, the coffee shops of Amsterdam famously sell cannabis alongside croissants. And other European countries are lenient about stronger drugs. Personal possession of any drug is not a criminal offence in Spain, Portugal, Italy, the Czech Republic or the Baltic states. Some German states and Swiss cantons are similarly relaxed, as are a few Australian states.

Decriminalisation means that possessors may be stopped by the police but do not earn a criminal conviction, and that punishments are light: a fine in Spain, for instance, or suspension of one's driving licence in Italy. Drug-takers can escape even this unless aggravating circumstances apply, such as taking the drug in public or after repeated warnings.

The legal gymnastics that allow countries to soften their line in spite of the UN conventions are extraordinary. A country must ensure that drug possession is a criminal, not civil, offence—but only "subject to its constitutional principles and the basic concepts of its legal system". This caveat has allowed countries to treat drug possession as a civil matter. Further wriggle-room is given in the UN's official commentary on the convention, which states that the spirit of the rule is the "improvement of the efficacy of national criminal justice systems in the field of drug-trafficking". On this basis, countries may tell their police to turn a blind eye in the name of policing efficacy.

It is an embarrassing mess for the UN's Office on Drugs and Crime (UNODC), which prefers to highlight Sweden, a country that has implemented strict drug laws and can claim some success in its quest for a "drug-free society". In Sweden possession of any banned drug, including cannabis, earns a criminal record and sometimes a jail sentence (albeit one with an emphasis on treatment). Many countries have such laws in theory, but Sweden carries them out: most of its prosecutions for drug offences are for mere possession, rather than dealing. A report from the UNODC in 2007 highlighted the country's lowish levels of drug use compared with elsewhere in Europe, and praised recent falls in consumption. Sweden has a below-average number of "problem" drug users too, though there is less in it, suggesting that the main effect of harsh laws may be to deter casual pot-smokers rather than to prevent serious addiction. Should other countries follow Sweden's example?

A different UN agency suggests not. A survey last year by the World Health Organisation examined drug-taking in 17 countries and found no link between the strictness of prohibition and the amount of drug consumption. (The lenient Netherlands, interestingly, has one of the lowest rates of "problem" drug use in Europe.) "Countries with more stringent policies did not have lower levels of such drug use than countries with more liberal policies," the researchers concluded. For every strict regime like Sweden, there is another such as Britain or America where a tough approach co-exists with widespread drug use. Drug-taking was more closely linked to being wealthy, single and male than anything else, the

researchers found.

Changing drug policy over time also seems to have little impact. In Britain, drugs are classified A, B or C to indicate how harmful they are and to determine how severely offenders should be punished. But after cannabis was downgraded from class B to C in 2004, usage actually fell. All the same, the Home Office last year decided to bump it back to B again, and last month announced that it would ignore expert advice to downgrade ecstasy from A to B, fearing that to do so would “send a message” that the drug was now safe. Is anyone listening?

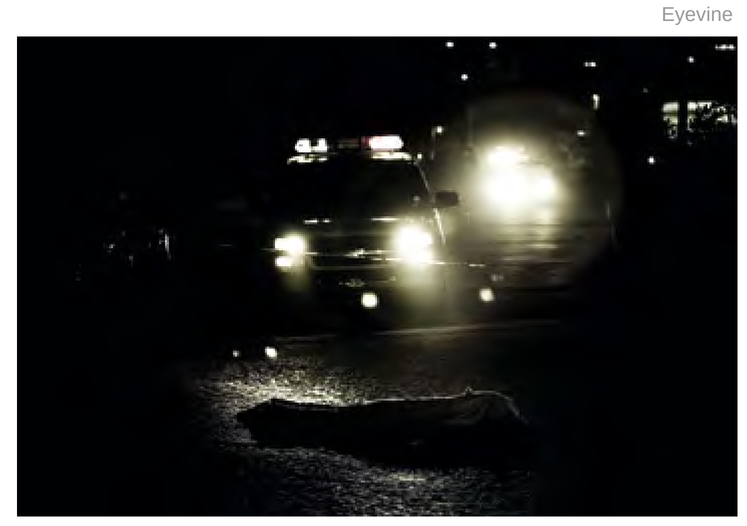
Drug education

In America, lessons learned

Mar 5th 2009 | LOS ANGELES
From The Economist print edition

But efforts to warn people off drugs are still too timid

Eyevine



On the border, another victim

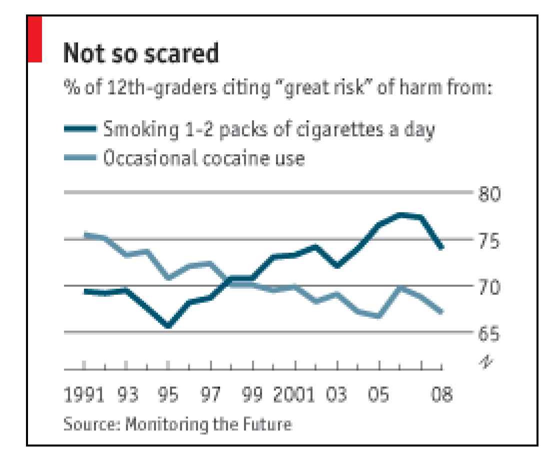
HIS memories are addled, but the young member of Cocaine Anonymous can just about recall his formal drug education. When he was about 11, he says, a police officer made several visits to his school to give warning of the dangers posed by illicit substances. Although he remembers thinking the cop was "something of a Dudley-Do-Right" he agreed with him that drugs were best avoided. He recalls no further lessons. By his late teens he was addicted to crack cocaine and methamphetamine.

By far the best way of reducing the harm that drugs can do is to convince people not to take them. Spraying crops, seizing shipments and arresting dealers can drive up prices and create temporary shortages. But it does not stop drug use. Addicts simply pay more for crummier product or switch to other, often more harmful, substances. Cocaine-takers may move to powder amphetamine or crystal meth; heroin addicts experiment with oxycodone. "It's like a water-bed. Push down in one place and another drug pops up," says Rod Skager, who surveys teenagers' drug-taking for the California state government.

In the late 1980s cocaine-taking fell steeply among 12th-grade pupils—that is, 17- and 18-year-olds—according to the University of Michigan's long-running Monitoring the Future survey. Those teenagers reported that the drug was more available than ever. They had simply decided not to take it on the grounds that it was harmful. The same thing happened with ecstasy earlier in this decade. Given the strong link between perceptions of harm and use, it is a bad sign that attitudes to cocaine are again becoming rather relaxed (see chart).

Most attempts to reduce drug demand in America are aimed at 11- to 14-year-olds. The principle is that children should be reached while they are still fairly pliable and before they begin to take drugs—not just the hard stuff but alcohol, marijuana and tobacco. The hope is that they will develop a broad aversion to harmful substances that will stay with them through their late teens and early 20s, when drug use peaks. Only when an immensely damaging drug emerges suddenly, as crystal meth did in some western states a few years ago, are concerted efforts made to communicate with older teenagers.

Until recently the dominant approach was Drug Avoidance Resistance Education (DARE), a programme developed in Los Angeles in 1983 and quickly exported to the rest of America. Cops would arrive in schools, sometimes driving cars confiscated from drug-dealers, and tell 11- and 12-year-olds about the dangers of illicit substances. They drew little or no distinction between marijuana and methamphetamine. Teachers liked DARE because they felt uncomfortable tackling the topic themselves, and because they got a break. Parents liked it because they felt their children would listen to police officers.



Unfortunately, they did not. A string of academic studies labelled DARE pointless at best. Some academics—and former drug-takers—argue that efforts to scare young children about drugs that they may not have heard of are actually counter-productive. "They're a challenge," says Taylor, a Los Angeles native who is recovering from an addiction to crack cocaine and heroin. The federal government opted not to pay for the programme. It survives (DARE claims it is still used in 72% of America's school districts), but in an altered form. It has even been dropped by the Los Angeles school district, where it began.

The new approach to drug education, reflected in the remodelled DARE, is more oblique. By means of role-playing, cops and teachers try to provide children with the confidence to resist pressures of all kinds, from drugs to internet bullying. Rather than telling children that drugs are dangerous, teachers assure them that they are rare. Drugs are no longer treated as a unique, self-contained threat—which indeed they are often not. "Kids do not normally walk in with a drug problem who do not have other problems," says Lori Vollandt, who co-ordinates health programmes in Los Angeles' schools.

The new programmes are mostly intended to reduce alcohol, marijuana and tobacco use, and are evaluated in those terms. There is a good reason for that. Because they are so widespread, the total harm caused to teenagers by alcohol and tobacco is much greater than the total harm caused by harder drugs. There is also a less good reason. Educators worry about the "boomerang effect", in which talk about drugs feeds curiosity about them.

The success of the campaign against methamphetamine suggests the boomerang effect is overdone, at least for older teenagers. Meth is an old drug that suddenly became popular again in the late 1990s. It is generally made by cooking ammonia, lithium and pseudoephedrine, a decongestant. The manufacturing process is extremely dangerous and the finished product hardly safer. Faced with an epidemic, Montana and other western states rolled out advertising campaigns. But rather than emphasise the drug's addictiveness and long-term effects on the brain, as earlier anti-drug campaigns had done, these pointed out that meth users often had rotten teeth. It worked: in the past five years attitudes to the drug have hardened and use has dropped steeply.

Even greater success has been achieved against tobacco. Since the mid-1990s, the proportion of 12th-grade pupils who believe smoking a packet or two of cigarettes a day carries a great risk has risen by about ten percentage points. Regular puffing on cigarettes is now thought much more dangerous than occasionally smoking crack.

There are several reasons for this. Hollywood has virtually stopped glamorising cigarettes. Executives have been shamed and smokers ostracised. But a big reason is that the people who create anti-tobacco ads have refined their messages. They now know, for example, that warnings about long-term health effects do not scare teenagers. The long-term is too far off. Pointing out that second-hand smoke can harm babies turns out to work. So do ads suggesting that non-smokers are more popular.

It may seem odd that the campaign against tobacco, a legal drug, has displayed so much more élan than the war on illegal drugs. Yet this is natural. Making a drug illegal may discourage some people from taking it, but it also discourages frank conversation and clear thinking. It is much easier to attack something if it is brought into the light.

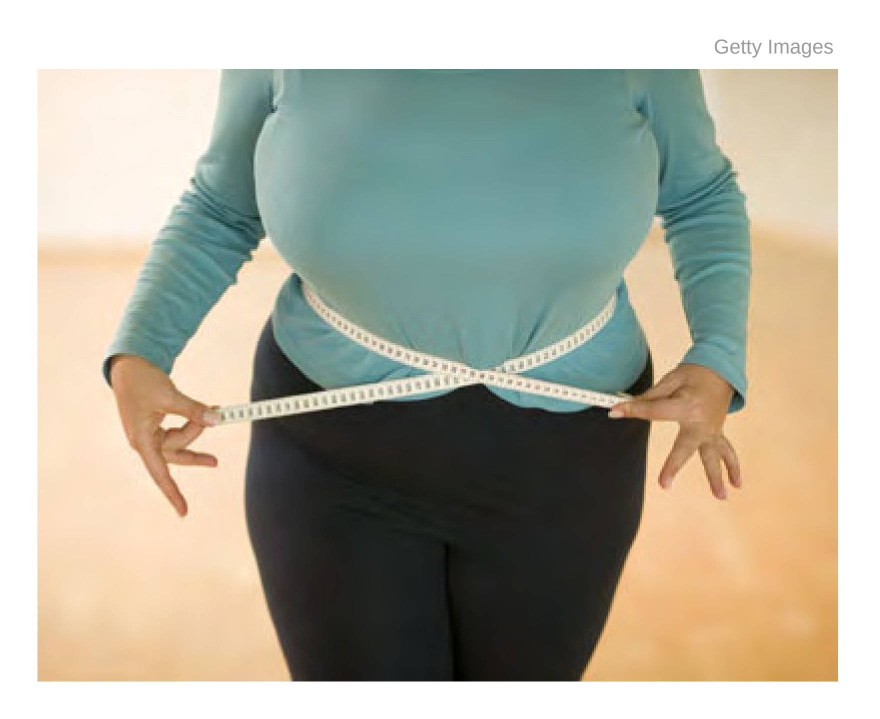
Barack Obama's health reforms

The view from West Virginia

Mar 5th 2009 | HAMLIN, WEST VIRGINIA, AND WASHINGTON, DC
From The Economist print edition

What will health reform do for the unhealthiest Americans?

Getty Images



HIS bedside manner would unnerve the most stoical of patients. In the past eight years, says Barack Obama, health-insurance premiums have grown four times faster than wages. Every year a million Americans lose their coverage. The crushing cost of health care causes a bankruptcy every 30 seconds, and by the end of the year it could cause 1.5m Americans to lose their homes. In short, America's health-care system is sick, and "there's no easy formula" for fixing it.

After the financial crisis, health reform is Mr Obama's most urgent domestic priority. This week he named his second choice for health secretary (Kathleen Sebelius, the governor of Kansas) and was due to convene a health summit at the White House as *The Economist* went to press. His first choice for the health job, Tom Daschle, had clout on Capitol Hill and a mastery of health-care policy, but had not paid all his taxes and so had to drop out.

Mrs Sebelius is no lightweight. As the Democratic governor of a Republican state, she is used to working with the centre. As a former state insurance commissioner, she knows the subject. But her own efforts at health reform in Kansas came to little. If confirmed, she is more likely to implement policy than to drive it. Mr Obama also named Nancy-Ann DeParle, a veteran of the Clinton era health-reform battles, as director of the White House Office for Health Reform. Mr Daschle would have done both of these jobs.

The two women have a tough task. America spends at least twice as much per head on health care as other rich countries. Yet for $2.2 trillion a year—twice the GDP of India—Americans get mediocre results. They die, on average, nearly two years earlier than west Europeans. Some 46m of them lack health insurance. And ever-rising medical costs could break the budget.

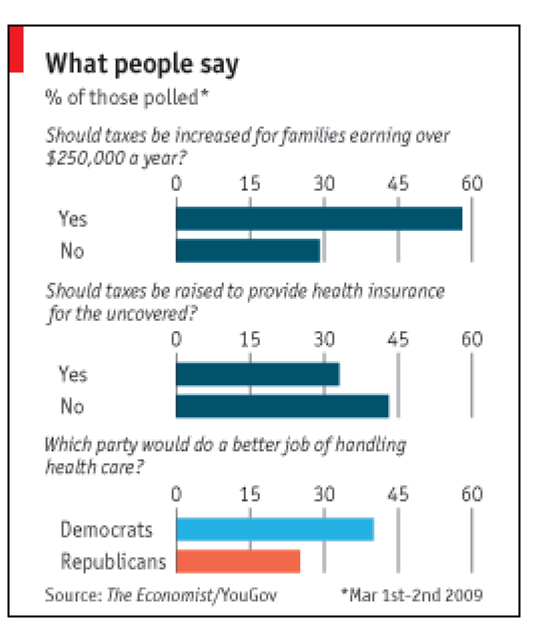
Mr Obama promises several reforms. He has already signed an expansion of state health insurance for children. And he promised on February 26th to set aside more than $630 billion over ten years as a "down-payment" towards making health care affordable for everyone.

Mr Obama wants to oblige all parents to obtain health insurance for their children, subsidising those who cannot afford it. He would create a national health-insurance exchange to help individuals and small firms

join larger risk pools and so reduce their premiums. He would bar private insurers from rejecting people because of pre-existing illnesses, and offer everyone the option of buying into a government health plan.

It is too early to say what kind of reform bill will eventually emerge from Congress. Unlike Hillary Clinton in the 1990s, Mr Obama favours a gradual approach to reform, refusing for example to make it compulsory for everyone to buy health insurance, at least for now. Nonetheless, his proposals are radical.

He insists that Americans who like the health insurance they currently get through their employer can keep it. But Michael Tanner of the Cato Institute, a libertarian think-tank, predicts that government insurance will crowd out private insurance. The government could offer insurance cheaply by dumping part of the cost on future taxpayers, and so crush its private competitors.



If that happens, hospitals will be squeezed. Currently, patients with private insurance cross-subsidise those in government schemes. (A typical hospital enjoys a profit margin of 48% on each privately insured patient and suffers a 44% loss on each patient covered by Medicaid, the government programme for the poor, according to McKinsey, a consultancy.) If that subsidy disappears because there are fewer private patients left to pay it, hospitals will have to cut back. European-style queues may form, the sceptics fret.

Mr Obama dismisses such fears. He says he can expand coverage while curbing costs by cutting waste and encouraging healthy living. Critics grumble that he provides few details. He wants to computerise medical records, of course. He would promote "evidence-based medicine" (the novel idea that you measure what works and offer only treatments that do).

The facts on the ground

And Obamaworld is buzzing with ideas to help people keep fit. Taxes on booze, cigarettes and sugary drinks, which are low by rich world standards, could rise. There is talk of making companies install gyms in the same way as they do fire escapes. Some favour giving people a "nudge" (the title of a recent book popular among Obamaites) to live more healthily. For example, people eat less if restaurants serve smaller portions; children eat better if the school cafeteria puts healthy food at eye level.

The cultural obstacles to all this, however, may be greater than Mr Obama's lean, sporty advisers understand. Consider the shoppers at the Save-A-Lot supermarket in Hamlin, West Virginia. At the beginning of the month, when the food stamps arrive, they snap up buckets of lard so big that the label says: "Warning—Children can fall into bucket and drown." The manager, Key-Ray Adkins, shrugs: "People now say lard isn't good for you. But it's what we grew up with."

Hamlin is near the Huntington metro area, one of the unhealthiest in America. Some 77% of adults are overweight; an incredible 46% are clinically obese. Some 13% of adults have diabetes, 22% of those over the age of 45 have heart disease, and nearly half the over-65s have lost all their teeth.

The local cuisine dates back to the days when people burned off calories at work. But the coal mines these days use more machines and fewer people. "That's good, in that people aren't getting torn apart [in mining accidents]," says Rob Walker, a local doctor. "But bad in that they are gaining a lot of weight." Some 26% of West Virginians smoke too, despite the warning on every packet and 16% of the men chew tobacco, the highest rate in the country.

Because West Virginians are unhealthy, they cost a lot to insure. The Riedel-Wilks building firm in Huntington, for example, saw its premiums soar by nearly a quarter in the past year because the boss fell ill. Paul Riedel, the firm's president, needed $58,000-worth of treatment for diabetes and chronic obstructive pulmonary disease. A couple of his middle-aged colleagues racked up large bills, too. "A big illness can knock [a small firm] sideways," says Mr Riedel.

Some firms stop offering health insurance. Under Mr Obama's plan, they will have to pay a penalty for this, but probably less than the amount they save by dropping coverage. Firms that go on offering

insurance must worry about things unrelated to their true business, such as whether a prospective employee has a chronically sick child. "You can't legally discriminate, but no sane employer would hire that person," says a local businessman.

Roman Prezioso, a Democratic state senator in West Virginia, is not holding his breath for Mr Obama to shake up the system. "How many times have we heard that?" he asks. Regardless of what happens in Washington, "it's up to us" to boost preventive care, he reckons. What works, he says, is making sure people have a primary-care doctor who knows them well and can recommend not only treatment but also lifestyle changes.

Dr Walker is one of those. He says that you need to know your patients to be able to persuade them. "You may say: 'Eat less salt because you have high blood pressure.' He may reply: 'But I feel fine.' You have to be able to say: 'I know, but your wife and your three kids need you to be around for a long time.'"

The budget and the environment

Whom the cap fits

Mar 5th 2009
From The Economist print edition

A mighty dust-up awaits the president's plan for cap-and-trade

AMERICA'S hard-nosed politicians are not always moved by lofty rhetoric, but talk about money normally gets them going. That, at any rate, must be what Barack Obama is assuming, judging by the approach to climate change outlined in his ten-year budget plan.

Throughout his campaign for the presidency and again in his inaugural address, Mr Obama said that it would be necessary to limit America's emissions of greenhouse gases. In his first address to Congress, he was even more specific. "Send me legislation that places a market-based cap on carbon pollution," he pleaded. Under such a law, the federal government would set an overall limit on emissions each year, and then auction tradable permits to pollute up to that level. Firms responsible for emissions, including utilities and oil producers, would either have to cut them or compete to buy a steadily shrinking number of permits.

Many members of Congress, however, fear this sort of cap-and-trade scheme might dramatically increase the price of energy, and so compound the current recession. Others are turned off by the prospect of the government raking in huge dollops of cash from auctioning emissions permits, which they worry will not be well spent. John Boehner, the leader of the Republicans in the House of Representatives, complains that cap-and-trade "will increase taxes on all Americans who drive a car, who have a job, who turn on a light switch, pure and simple." Some of the idea's opponents have dubbed it a "tax on everything".

In his budget plan, Mr Obama has tried to turn these arguments round. He does call for a cap-and-trade scheme that would reduce America's emissions by 14% from the level of 2005 by 2020 and by 83% by 2050. And he does assume the federal government will be taking in lots of money from permit auctions: roughly $80 billion a year from 2012, for a total of $646 billion by 2019. But he also suggests that most of these revenues should be handed straight back to America's poorer workers, in the form of tax breaks. He also promises help for the hardest-hit industries.

Mr Obama also proposes to eliminate various tax breaks for oil firms, a step that his budget plan calculates would raise about $30 billion over the next decade. That is logical: there is no point in calling for cleaner energy while subsidising the dirty kind. It also serves a political purpose. Mr Obama can now label opponents of his plans as corporate lackeys, not to mention enemies of the working man.

The only big new spending scheme would be for research into cleaner forms of energy, which would receive $15 billion a year. But here and there throughout the budget Mr Obama suggests spending a little bit more on various programmes related to climate change, from NASA's monitoring of greenhouse gases to the Department of the Interior's efforts to protect vulnerable wildlife.

Simply including all these measures in the proposed budget is no guarantee that Congress will approve them. Mr Obama still faces an almighty dust-up over cap-and-trade, in particular. But by including it in his budget plans, he sends a more tangible signal of his determination to take on global warming than he could with a score of uplifting speeches.

Water in California

Dust to dust

Mar 5th 2009 | HURON, CALIFORNIA
From The Economist print edition

Good things can come from a drought



IN THE dry south-western part of California's Central Valley, almond-growers are resorting to desperate measures. Some are trimming their trees so they can survive on less water. Others are spraying them with a chemical to retard growth. Dan Errotabere is planning to mix fresh water with salty, boron-tainted groundwater, in effect poisoning his soil. He has also got rid of less valuable crops and left some 1,500 acres (600 hectares) of his 5,600-acre farm to lie fallow.

Before the 1930s this land was desert. Then the federal government built a vast irrigation system. Water from the Sierra Nevada mountains in northern California is pumped out of the Sacramento delta and dumped into a canal that runs 400 miles (640km) through the temperate Central Valley. It is an engineering marvel and an economic boon. In 2006 California's agricultural output was worth $31 billion, more than any other state. By contrast, worldwide ticket sales for Hollywood's films in that year amounted to $25 billion.

The trouble is that there is not enough water to go round. Snow levels in the Sierra Nevada mountains are below normal for the third year in a row. Judges have curtailed pumping in order to protect the delta smelt, a small, endangered fish. Last month Westlands Water District, in which two-fifths of Mr Errotabere's land lies, learnt that it would get no water from the federal canal this year. (The district may get a trickle if the rain is good in March.)

This would be an economic catastrophe even if California were not already mired in a deep recession. As farmers take land out of production, employment falls and the price of some crops is likely to rise. Small farming towns like Huron, which appear rickety at the best of times, are now desperate. Crowds of young Hispanic men loiter on street corners in the middle of the day. But the drought is also forcing changes that will help agriculture in the long run.

Farmers like Mr Errotabere have begun to use water more efficiently, dripping it through perforated hoses rather than flooding fields. There is a growing market in water trades between farmers. Most important, the state has set up a water bank. Farmers north of the Sacramento delta, many of whom grow rice, can offer to keep fallow their least productive lands and sell water to cities and needy farmers farther south. The contracts are still being negotiated, but the price to farmers in the Westlands Water District is likely to be close to $500 per acre-foot—that is, the amount that it takes to flood an acre of land a foot (30 cm) deep. It is more than three times the sum that farmers paid last year.

This is no free market. The state sets the price, and since demand even at $500 per acre-foot greatly exceeds supply, water must be rationed. The market is also crimped by a rule that no more than 20% of farmland in any county may lie fallow. And no fields that contain giant garter snakes may be allowed to dry out.

Yet it is a crucial change. The problem with water in the American West is not that it is too scarce but that it is too cheap. Low, stable prices have encouraged some farmers to waste water and to pour it on low-value crops like rice and alfalfa, while others struggle to sustain valuable almond trees. The water market that is emerging in California helps change that. There is an old saying that water flows towards money. At last it is starting to do so.



Dollar stores

Many a mickle

Mar 5th 2009 | TAMPA, FLORIDA
From The Economist print edition

The recession is good for some

AP



EVEN before the economy tanked, discount stores, or dollar stores as Americans call them, were looking healthy. Now their profits are rising like helium-filled balloons. Dollar Tree, a Virginia-based chain of dollar stores, had sales of more than $1.39 billion in the fourth quarter of last year, a 6.8 % increase over the year before. For the whole of 2008, Dollar Tree, which has been in business since 1953, notched up record sales of $4.64 billion.

Family Dollar is prospering, too. The market value of this company, based in North Carolina and with more than 6,600 stores in 44 states, rose 36% last year. Other dollar-store companies have also reported big profits.

Dollar stores sell everything from sweets and toys to linens and household cleaning products. Contrary to popular belief, not every item in the stores costs a dollar. But all the items, most of which are generic, are still cheaper than they would be in grocery or drug stores. Companies achieve this by buying in bulk, by keeping costs low and by avoiding expensive national advertising, especially on radio and television, and instead send out circulars every month to local customers.

But dollar stores are changing, in line with shifts in the economy as a whole. For decades they were to be found only in rural areas, but now—with recession gripping all parts of the country—they are just as common in Chicago or Los Angeles. Once, too, they were a particular feature of southern states. But now 99¢ Only Stores, a company that is based in aptly named Commerce, California, has stores in Arizona, California, Nevada and Texas. In fiscal 2008, total sales were more than $1.2 billion.

Clearly, as the recession persists, dollar stores will continue to thrive. "Thrift is in. Saving money is in," boasts Josh Braverman, a spokesman for Family Dollar. "And it still will be even after the economy recovers."

Illinois politics

The outsiders

Mar 5th 2009 | CHICAGO
From The Economist print edition

The race for Rahm Emanuel's seat

ON NOVEMBER 6th Rahm Emanuel announced that he would leave Congress to join Barack Obama's White House, as chief of staff. Not even this master politico could have foreseen what happened next. Three doctors, two state representatives, a county commissioner, an alderman, a former pilot, a construction chief, an economist, a labour lawyer and a businessman endorsed by racing-car drivers: these were just the Democratic candidates for Mr Emanuel's perch in the fifth congressional district of Illinois. Add five Greens and six Republicans, including a former wrestler called Jon Stewart, and the total number of contenders reached 23.

On March 3rd one face emerged from this crowd. Mike Quigley, a commissioner of Cook County (which includes Chicago), won the Democratic primary. The outcome of the election on April 7th is predictable. Illinois's fifth district, which stretches from posh flats on Chicago's lakefront through working-class bungalows to the suburbs near O'Hare airport, is reliably blue. But the primary, despite low turnout, was like nothing Illinois had seen in years. And with the state still reeling from the mess of Rod Blagojevich—the Senate is investigating the former governor's appointee to replace Mr Obama, Roland Burris—the race offered a small sign of change.

The fifth district has a colourful past. There was Mr Emanuel, dubbed Rahmbo by his colleagues. Before him came Mr Blagojevich, who is now writing a book that, many hope, will match the eloquence of his telephone conversations. Before him was a Republican, elected largely because Dan Rostenkowski, his predecessor and one of Washington's most powerful congressmen, had been indicted.

Mr Emanuel's departure created a rare opportunity, both for candidates and for voters. The district lacked an incumbent and, perhaps because of post-Blagojevich rage against the Democratic machine, Chicago's kingmakers did not anoint a successor. Into the void rushed many people, most of them unknown, several impressive. Candidates worked hard to stand out. Charlie Wheelan, a lecturer at the University of Chicago and a former correspondent for this newspaper, appeared in one ad almost entirely underwater. John Fritchey, a state representative and front-runner, courted mustard-loving Chicagoans, if not logic, with a flyer that read: "John Fritchey's So Honest He Admits to Putting KETCHUP on His Hot Dogs—And We Need MORE of That in Washington."

Despite the cacophony, almost every candidate proposed reform. Mr Quigley cast himself as an independent voice, pushing for fiscal prudence and transparency in a notoriously opaque county. He beat two formidable opponents: Mr Fritchey, who had the support of more aldermen, and Sara Feigenholtz, a state representative who raised more cash. Voters hardly stormed the polls. Turnout was 17%. But Mr Quigley declared a sea-change. "After all we've been through in Illinois," he shouted on election night, "… this is really the first chance the voters have had to say, 'Enough is enough.'"

Louisiana

Diversionary tactics

Mar 5th 2009 | NEW ORLEANS
From The Economist print edition

A race against time as the region sinks

NO ONE really knows how fast global warming will make the oceans rise. But what is clear is that south-east Louisiana is sinking, rather rapidly by geological standards. Add in the prevalence of hurricanes in the neighbourhood, and it becomes a dangerous place to live.

Land subsidence in the Mississippi delta is largely caused by human interference. When the river was allowed to flood over its banks every year, some of the muck that spilled out remained, creating more and higher land nearby. (It is because of this that the highest ground in New Orleans, counter-intuitively, is along the riverfront, one of the only areas of town not to flood after Hurricane Katrina.)

Levees have changed that. Until Katrina, the Mississippi had not flooded in or around the city in almost 80 years. During that period, swampy lands in the region began to be drained for development. As the moisture was sucked out of it, the ground naturally sank, and without the once-annual dose of Mississippi mud, the sinking continued.

Scientists now think south-east Louisiana may sink between two and six feet (up to two metres) over the next century, and that perhaps half of that will be caused by subsidence. If they are right, New Orleans and its suburbs will become thin strips of low land walled off by levees and surrounded by open water on three sides, much more vulnerable than they were when Katrina struck.

This grim outlook, the subject of a recent series in the *Times-Picayune*, has reignited debate about how to protect the area from the sea, and how much to spend doing it. In the eyes of most south Louisianans, the federal government has been a bit stingy when it comes to reinforcing flood defences. Levee improvements are going on at the moment, but until they are finished New Orleans is vulnerable. Last year, though it did no major damage, Hurricane Gustav sent sea waves spilling over floodwalls in the heart of the city.

There have been some victories. The Army Corps of Engineers, the federal agency responsible for coastal defences, has successfully installed a couple of diversion projects, which push muddy river water into nearby marshland in an effort to mimic the land-building effect of the old springtime floods. They seem to work, but many more are needed, and soon.

What is clear is that an expensive, co-ordinated, all-hands-on-deck effort will be required to beat back the forces of nature in south-east Louisiana. That has yet to happen. Instead, plans have either been modest or have failed to get funding. One of the most successful diversions, near the river's mouth, is now in danger of being shut down because the shipping industry has complained that it is silting up a useful anchorage. The Corps of Engineers, meanwhile, has failed to produce plans for higher levees and coastal restoration that would provide so-called "Category 5" protection, as Congress has demanded.

Louisianans hope that the national infrastructure campaign Barack Obama wants to implement will include a healthy dose of levee- and wetland-building. In the meantime, the region continues to lose minute but measurable ground to the Gulf of Mexico every month.

Statewatch: New York

Reaping the whirlwind

Mar 5th 2009 | SYRACUSE AND NEW YORK CITY
From The Economist print edition

Our occasional series reaches the Empire State, and its mighty problems

AFP



WHEN Magna International, a car-parts manufacturer, announced a month ago that it was going to wind down operations in its Syracuse factory, its 1,400 employees were not surprised. "The writing was on the wall," observed one worker. Salaries were already markedly lower; some have fallen from $30 an hour to $13 recently. Periodic lay-offs had become the norm. The latest blow is that floor workers will not get a promised $25,000 bonus. "We no longer have even that cushion," says Michael Needham, a father of four who has worked at the factory since 1992.

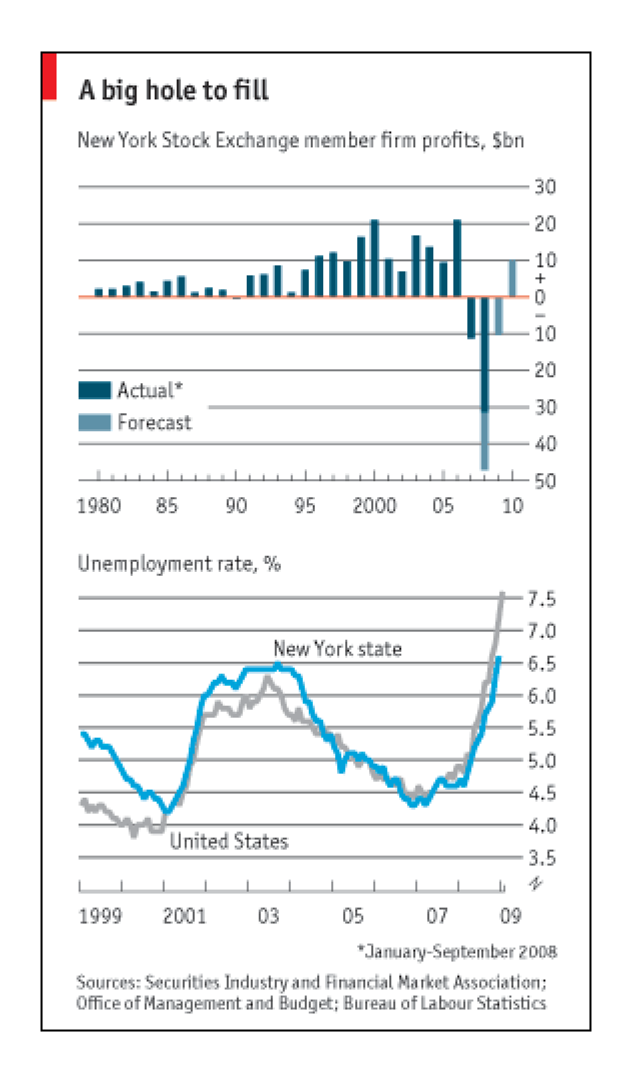
Manufacturing, once the engine of upstate New York's economy, has been in retreat since the 1980s. Old industrial cities such as Buffalo, Rochester and Syracuse have been relentlessly hit by closures. Manufacturing growth in the mid-1990s bypassed the region. Eastman Kodak in Rochester recently laid off 1,300 workers. Syracuse China, maker of plates since 1871, will soon close its doors. Syracuse China will still be made—but not in Syracuse.

Although the economy of upstate New York has been in trouble for years, the housing crisis that has tortured most of America has generally skipped the region. The downturn so far "is not devastating upstate", says James Parrott, chief economist of the Fiscal Policy Institute. Downstate, in fact—New York and the suburbs round it—is feeling it much more.

Wall Street's recent job cuts have had a disproportionate impact on New York City's economy. Finance accounted for 9% of private-sector jobs, but for over a third of the private-sector payroll. This affects city revenues; finance pays, on average, $13,928 in taxes per worker, whereas the manufacturing industry pays only $5,745 per worker. To close the hole in his budget, Michael Bloomberg, New York's billionaire mayor, has cut $2.5 billion from city spending since last year. But the city still faces a $4 billion gap—up from $1.3 billion in November. Mr Bloomberg has proposed cutting municipal jobs as well as raising $894m in new sales taxes, which would include taxing music downloads.

Robert Lieber, the mayor's deputy in charge of economic development, insists that "New York is in a good position now." But, he adds, "We don't know how long or how deep [the recession] is going to go." With the 1970s fiscal crisis in mind, when the city teetered towards bankruptcy and 1m people left, Mr Bloomberg is striving to maintain the low crime rate and keep rubbish off the streets, while finding ways to replace or redeploy finance-sector jobs. City Hall has an 11-step plan to help entrepreneurs and venture capitalists.

Last autumn the governor of New York state, David Paterson, said, "Every time you hear Wall Street's having a bad day, just know that New York [state] is having a worse day." There have been many bad days. Some 20% of the state's revenues come from Wall Street, and a whopping 30% of its fourth-quarter revenues usually come from Wall Street bonuses. Cash bonuses paid to Wall Street firms fell by 44% in 2008 to $18.4 billion, down from $32.9 billion paid in 2007. This reduction will cost the state $1 billion in personal income tax, according to Thomas DiNapoli, the state comptroller.



Though they took a while to grasp the severity of the crisis, legislators in Albany are now on board. This year's $1.6 billion deficit gap was hard to close, though it must be closed by law. Next year's $13.8 billion gap looks a lot more ominous. Mr Paterson shaved off $1 billion but, days later, the hole widened to $14.2 billion. The president's stimulus package, which provides some aid to states, will take a little of the pressure off, but more cuts will be needed. A so-called "millionaires' tax" may be considered. The stimulus package will help extend unemployment insurance: New York pays $405 a week, a lower proportion of the average pay-cheque than in any state except Alaska, though some workers make too little to qualify for it. Strangely, welfare rolls continue to fall, but 17% more people are receiving food stamps.

There is some good news. Jobs are available, especially in health care, where Syracuse is doing well. One problem, though, is bringing upstate New York's skills into line with the high-tech needs of businesses, according to Lenore Sealy of Syracuse's CNY Works, a federally funded agency that provides career counselling and training.

Her outfit, in a former fabric factory, has seen the numbers using its services double over the past year. Its computers are especially needed, as most jobs are posted online and must be applied for electronically. Greying men and women, who operated factory machines for decades, now sit anxiously at computers, looking for jobs.

Lexington

Anger management

Mar 5th 2009
From The Economist print edition

Some Americans are getting as mad as hell

Illustration by KAL



IN ONE of his short stories, "The Quantity Theory of Insanity", Will Self suggests that there is a fixed amount of craziness in the world. If one person becomes a bit saner, another will become that bit madder; if one group starts to act normally, another will start freaking out.

Mr Self's theory can be applied to all sorts of mental affliction. Children like to think they are less bigoted than their parents, for example. In fact, they are simply bigoted about different things: fatties, smokers and people who drive Humvees, rather than blacks or homosexuals.

But the most dramatic example of the quantity theory at the moment is anger. Many people hoped that Barack Obama would usher in an era of good feeling after the foam-flecked Bush years. He talked endlessly about bipartisanship and national unity. He was also a living symbol of racial reconciliation. America greeted his inauguration with a frenzy of flag-waving and well-wishing. But anger is back in a big way, redistributed but also revitalised. John McCain is angry about earmarks in the budget. ("If it seems like I'm angry, it's because I am.") Ben Bernanke is angry about bailing out AIG. ("If there is a single episode in this entire 18 months that has made me more angry, I can't think of one.") And everybody is angry about the state of the economy.

The most popular targets of public anger are the greedheads and incompetents who plunged the country into economic meltdown. Hardly a day passes without a new culprit to throw stones at: CEOs who fly to Washington in private jets to beg for a handout, financial titans who were paid hundreds of millions to ruin their banks. And the anger has become politicised. This year's meeting of the Conservative Political Action Conference (CPAC) on February 26th-28th attracted some 9,000 activists, the most ever. Taxpayer tea parties (a celebration of the Boston event back in 1773) have sprung up across the country, drawing anything from a few hundred protesters in New York to 2,000 in Greenville, South Carolina. RedState, a conservative blog, is calling on conservatives to "save the country by helping Obama to fail".

The biggest cause of anger is Mr Obama's willingness to bail out everyone with a tin cup, from bankrupt bankers to incompetent carmakers to over-their-ears mortgage-holders. People who have borrowed prudently and lived within their means are livid that they are being asked to bail out neighbours who splurged on McMansions and giant televisions. Rick Santelli, a previously obscure TV journalist, became a folk hero when he complained that Americans were being made to "subsidise the losers' mortgages".

There is also mounting fury, among centrists as well as conservatives, about Mr Obama's budget, with its mixture of tax hikes for the wealthy and ambitious plans for regulating greenhouse gases and extending the government's role in health care. Larry Kudlow, a television journalist who is contemplating challenging Chris Dodd for his Connecticut Senate seat, says that Mr Obama is "declaring war on investors, entrepreneurs, small businesses, large corporations and private equity and venture-capital funds". Many former supporters worry that Mr Obama is treating the economic crisis rather as George Bush treated September 11th—as a convenient excuse for pursuing a long-held ideological agenda.

Anger seethes about the fact that so many big-government Democrats mysteriously lose their appetite for taxes when it comes to paying them themselves. This week saw the revelation that yet another of Mr Obama's nominees, Ron Kirk, the would-be trade representative, underpaid his taxes in 2005-07. But above all, people are angry that Mr Obama led them down the garden path. Bipartisanship? He is proposing one of the most liberal budgets in decades. Abolishing earmarks? The budget contains 8,570 of them. Honesty? The finance, property and insurance industries (all getting huge bail-outs) were the largest source of campaign contributions to Mr Obama after lawyers. Transcending racism? Eric Holder, the attorney-general, has accused Americans of being cowards when it comes to discussing race.

Backlash time

All this poses dangers for Mr Obama. The tea-party protesters who hold up signs that read "Obama...commander and thief" are clearly preaching to the converted. But those who hold up signs saying "Screw up, move up" or "Honk if you're paying my mortgage" may strike a chord with the wider public. Almost 60% of Americans tell pollsters that they are opposed to giving money to carmakers and banks that are in danger of collapsing. One of the lessons from both the Carter years and the first Clinton term is that new Democratic administrations are vulnerable to a populist backlash from the establishment-bashing, hypocrisy-smashing, small-business-defending right.

But this growing anger poses dangers for the right as well. The Republican Party runs the risk of being captured by its most extreme figures. Rush Limbaugh, a talk-show man who billed his talk to CPAC as an "address to the nation", is now widely regarded as the chief spokesman for the Republican Party, much to the Democrats' delight. The party also risks being branded as a "party of no" at a time when most Americans favour government activism. And Mr Obama still has an approval rating of over 60%: no longer exceptional, but still pretty good.

Mr Obama's most important weapon during the election campaign was his ability to turn anti-Bush anger into pro-American hope. That now seems a world away. The politics of the next few years will be shaped by managing anger rather than transcending it. Mr Obama needs to direct the rising tide of anger at rich Republicans. The Republicans need to direct it at Mr Obama's new establishment. Either way, hope loses.

Lexington now writes a blog, which is open for comment at Economist.com/blogs/lexington

Brazil's economy

Reaping the rewards of indolence

Mar 5th 2009 | SÃO PAULO
From The Economist print edition

Some of the unreformed aspects of Brazil's economy are now helping to limit the damage from the world downturn—but its prudence in recent years is helping too

Reuters



ANY list of the things that hold back Brazil's economy would until recently have included overbearing state influence in the financial sector. The government controls Banco do Brasil, a huge retail bank, and Caixa Econômica, the largest mortgage lender, plus the BNDES, a big development bank that feeds cheap credit to favoured companies. Hugely expensive bank loans are a handicap, too. And yet under changed circumstances such lamentable policies suddenly look far-sighted, and have given the global downturn an unusual tinge in Brazil.

Other countries are trying to work out how to run banks and direct credit to where politicians think it is needed. This is something Brazil did even when it was unfashionable. It is a sign of the times that a recent research note on Brazil from Goldman Sachs listed state involvement in banking as a plus. As for the private banks, the huge reserve requirements and taxes on funding that push up the price of their loans discouraged them from the wild risks that have brought down some peers in Europe and America. So far, credit in Brazil has been lightly chewed, not crunched.

Although the country has been spared the worst of the financial crisis, the economy is weakening. Redundancies have shot up, reversing the job growth of recent years in the formal economy (see chart). Embraer, a maker of jets, laid off 20% of its workers on February 19th. Vale, a mining giant, has cut 1,300 jobs and put more than 5,000 other workers on forced leave. Industrial production in December dropped 12%, the biggest fall in 17 years of record-keeping by the federal statistics agency.

This sharp slowdown will make for a grim year. Marcelo Carvalho, an economist at Morgan Stanley, has been forecasting no growth in 2009 and his view is fast becoming mainstream. Brazil is likely to be as late out of the downturn as it was late in. If the past is a guide, its industrial production has followed China's exports up and down, with a lag of one quarter.

Yet by comparison with Brazil's recent past, and also with what other countries are experiencing, the economy is in fair shape. The IMF forecasts that only the developing countries in Asia (which are poorer than Brazil), Africa (ditto) and the Middle East

will do better in 2009. Given Brazil's previous tendency to go into cardiac arrest whenever economies elsewhere became stressed, this is impressive. Argentina's crisis in 2001 and the Asian and Russian crises of 1997-98 were painful and disruptive for Brazil. The country's hypersensitivity to the vagaries of the world economy stretches back to at least the 1930s, when Brazil suffered a military coup during the Depression.



The reasons for its improvement are largely to do with public-sector debt, which was once a weak point but has been brought down below 40% of GDP. Foreign-currency borrowings have mostly been exchanged for real-denominated ones, so slumps in the currency no longer hurt the government's balance-sheet. Brazil has built up $200 billion of reserves to defend the real. Its current-account deficit is small. Most important, this crisis is not pushing up inflation—Brazil's congenital weakness. That in turn has allowed the central bank to cut rates (making public debt cheaper to service). This is the first time Brazil has been able to run a counter-cyclical monetary policy.

Yet worries persist that the fiscal prudence of recent years will not last. Government spending grew as fast as tax revenues during the boom times. Now, revenues are dropping but there is no moderation in spending. Raul Velloso, a consultant, points out that public spending typically surges in the year before a presidential election. One is due in 2010, which makes restraint now unlikely. As a result, the primary budget surplus (ie, before interest payments) is set to shrivel or disappear.

In normal times this would scare bondholders, who view the primary surplus as a guarantee that they will get paid. In practice they may panic less now that government finances around the world are showing the same deterioration, or worse.

Cuba

The other Castro stamps his heel

Mar 5th 2009 | MIAMI
From The Economist print edition

Two senior figures are dismissed after tasting "the honey of power"

Reuters



Pérez Roque: a high-flier brought down

IT HAS taken a while for Cuba's president, Raúl Castro, to settle into the seat his brother occupied for almost 50 years. But this week he put his own stamp on the government, making the biggest changes since Fidel Castro was struck down by illness in 2006. Two long-serving senior figures—Felipe Pérez Roque, the foreign minister, and Carlos Lage, the cabinet secretary—lost their ministerial jobs. Other officials were shuffled and ministries were merged.

Deciphering the internal machinations of Cuba's communist regime is somewhat comparable to the Kremlinology that went on before the fall of the Soviet Union. Adding to the mystery was the way the announcement was made: a brief item after the weather and sport on state television's midday news. The regime plays down political news to maintain an image of continuity following Fidel's retirement.

The underlying motives for the changes are so far hard to discern. The demise of Mr Pérez Roque, the youngish but hardline former private assistant to Fidel, looks like the removal of an obstacle to economic change. On the other hand, Mr Lage was seen by some as a potential reformer, and was credited with helping steer Cuba's economy through the collapse of the Soviet Union, its former patron.

Mr Pérez Roque and Mr Lage did have one thing in common. Both were dubbed "Yummys", young upwardly mobile Marxists, in the 1990s; and seen as future candidates to succeed the Castro dynasty. In Cuba's tight-knit system, such a high profile can be a liability. Just ask Mr Pérez Roque's predecessor, Roberto Robaina, likewise a high-flier until his dismissal in 1999. In his online column this week, "Reflections of Comrade Fidel", the former leader accused the two ministers sacked by his brother of being seduced by "the honey of power".

Tim Ashby, a former American official turned consultant on Cuba, says the new cabinet is mostly "non-ideological, pragmatic and results-oriented". The new foreign minister, Bruno Rodríguez, was ambassador to the United Nations from 1995 to 2003. Mr Lage's replacement, General José Ricardo Guerra, served under Raúl Castro when the president was defence minister. Other military men getting cabinet seats include Marino Murillo, the new economy minister, who led an anti-corruption drive at the commerce ministry.

The president's room for manoeuvre is restricted by the need to maintain unity ahead of a possible rapprochement with the United States. Last month America's House of Representatives passed a bill to relax slightly the strict sanctions against Cuba. This week Harry Reid, the Senate majority leader, indicated that it was likely to pass in the upper chamber too. Raúl Castro says he is ready for talks if Barack Obama keeps a campaign promise to favour engagement with Cuba over confrontation. But Cuban leaders fear that any splits in their ranks, triggered by American overtures, could cause the kind of chaos that sank the Soviet Union. The dire state of Cuba's economy increases the risks of such chaos. All the more reason for Mr Castro to want a strong, cohesive team.

An unmended fence

Mar 5th 2009 | BOGOTÁ
From The Economist print edition

Colombia gained much and suffered little from its raid into Ecuador

A YEAR ago Colombia's neighbours condemned it for sending troops into Ecuador to bomb and overrun a camp of the Revolutionary Armed Forces of Colombia (FARC). The raid was a success: one of the FARC's senior leaders, Raúl Reyes, was killed and Colombian forces grabbed three laptops containing vital intelligence, including evidence of the guerrillas' contacts with the leftist governments of Ecuador and Venezuela. Since then Colombia's American-backed drive to crush the FARC has made further progress. The guerrillas have lost other leaders and suffered desertions. A group of prominent hostages they were holding was rescued in July. On March 2nd the army said it had killed another FARC leader, José de Jesús Guzmán, alias "Gaitán", suspected of organising bombings in the capital, Bogotá.

After last year's raid, Ecuador and Venezuela severed diplomatic relations with Colombia and sent troops to their borders with it. Other South American countries, even moderate Brazil, condemned the incursion. Two regional clubs, the Organisation of American States (OAS) and the Rio Group, expressed disapproval. However, within weeks of the raid, Colombia's President Álvaro Uribe was again on backslapping terms with President Hugo Chávez of Venezuela. Mr Uribe smoothed things over with Brazil on a recent visit there. Relations with Ecuador remain cut but overall, says Alfredo Rangel, a security analyst in Bogotá, Colombia has paid a "small diplomatic price".

The OAS continues efforts to mend the rift between the two countries. On February 26th its secretary-general, José Miguel Insulza, met Ecuador's president, Rafael Correa, to push reconciliation. Three days later, however, Colombia's defence minister, Juan Manuel Santos, a possible candidate in the 2010 presidential elections, stirred the pot, calling the raid an act of "legitimate defence" and celebrating the killing of Reyes. Mr Correa retorted that he would "never forgive" those who violated his country's sovereignty, warning Mr Santos not to "mess with Ecuador". To placate Mr Correa and Mr Chávez, Mr Uribe gave his jingoist minister a wrist-slapping.

Mr Correa says relations will not be restored until certain conditions are met. These include Colombia improving its border security to stop the FARC crossing into Ecuador. Mr Correa also wants the Colombians to give a full report of their raid on his country's territory, including all the information they found on the FARC's computers. He wants Colombia to pay damages for the raid and to help with the cost of looking after around half a million Colombians who have fled to Ecuador to escape the decades-long conflict back home. Finally, Mr Correa wants Colombia to stop "defaming" his government by revealing what the computers told it about the rebels' links to Ecuadorean officials.

Mr Uribe has made some gestures, including setting up a new joint southern command of the armed forces to stop FARC fighters from crossing into Ecuador. But his case for launching last year's raid has been strengthened by the recent admission by a former deputy interior minister of Ecuador, being tried on drug-trafficking charges, that he had met Reyes, the FARC leader killed in the raid, at least seven times. In all, Colombia is disinclined to bend too far to soothe Mr Correa's wounded pride. No wonder the OAS has little to show for its year of peacemaking.

War in Sri Lanka

Trading danger for captivity

Mar 5th 2009 | VAVUNIYA
From The Economist print edition

An unseen humanitarian crisis of terrifying proportions

Reuters



IT IS a staple of television reports on war or famine: a windblown correspondent stands in front of a bedraggled refugee camp. Misery and despair are etched on pinched faces. "And these", he solemnly intones, "are the lucky ones." For some 36,000 recent arrivals from Sri Lanka's war zone to camps in the north-east, the cliché holds true. They tell harrowing tales of escape from rebel-held territory, dodging artillery shells and bullets, before being evacuated to government-run camps. The army says it has corralled the Liberation Tigers of Tamil Eelam into a thin coastal strip and is approaching victory.

But the Tigers are not the only ones caught in the trap. The International Committee of the Red Cross believes that up to 150,000 civilians are under fire and in desperate need of food, water, shelter and medical care. The normally circumspect organisation is complaining loudly of an unfolding humanitarian catastrophe. Around 2,000 of the worst-injured have been evacuated by ship—after an agonising selection process—but the pace is wretchedly slow. A makeshift hospital in the war zone has just eight doctors and few drugs. Many of the displaced Tamil civilians are huddled on a barren beach, awaiting rescue from what is supposed to be a government-designated "safe zone". In practice, it has come under fire.

India and other countries are calling for a pause in the fighting so that non-combatants can leave. For their part, the Tigers have proposed a ceasefire as a prelude to peace talks. Sri Lanka's government has rebuffed all such appeals, saying diplomatic pressure should be applied to the murderous Tigers, who are holding refugees as human shields. But on March 5th the government said it would open two "safe routes" to help trapped civilians escape overland. The government still believes that victory is close at hand and that more civilians will soon be scampering to safety.

Many of Sri Lanka's allies, including Western governments with vocal ethnic-Tamil lobbies, are probably praying for a quick rout. One possible deadline for a victory declaration is Sri Lanka's new year in April. But any final push against the Tigers could end in a bloodbath. Some aid workers are highly suspicious of a fudging of civilian numbers. The government says only 70,000 people are at risk; United Nations estimates run to 200,000. Sri Lanka's 26-year civil war is full of missing persons and massacres. Who will count the dead when the guns fall silent?

John Holmes, chief of the UN's humanitarian operations, visited Sri Lanka and briefed the UN Security Council on February 27th about the fate of civilians. He suggested creating a humanitarian corridor and

cited “strong evidence” that the Tigers were preventing people from leaving. Russia and Vietnam had at first objected to the discussion, arguing that it was a sovereign matter. No action was taken by the council. This frustrated some UN staffers in Sri Lanka, who gripe that such meekness plays into the hands of Sri Lanka’s bullying leaders. International aid groups have also mostly stayed silent for fear of being branded as troublemakers and cut out of post-conflict reconstruction.

Those who do reach Vavuniya’s teeming refugee camps are in for the long haul. The aid workers’ unvoiced fear is that these sites will become internment camps. A showcase facility shown to reporters on an army-escorted visit had schools, health clinics, banks and a post office, as well as rows of barrack-style family housing for 2,800 people. Many more displaced families have been crammed into squalid public buildings. Officials say those in makeshift camps will soon be moved to “welfare villages” on a 1,000-acre site under construction. But, free of the hellish war zone, refugees are now in limbo, unable to go home until the army decides it is safe to do so. No visitors are allowed, and soldiers patrol the dusty lanes, eyeing potential Tiger infiltrators. “We should be given more freedom,” says Linga Devan, 54, a farmer. “We’re in a terrible state.”

Naturally, the foreign governments biting their tongues on the war are expected to pay for the camps and rebuilding the war-torn north. Sri Lanka’s foreign reserves are running dangerously low, and an IMF bail-out is under discussion. Donors might be expected to use their influence to insist on a pause in fighting and a stepped-up evacuation plan. For trapped civilians, time is fast running out.

Terrorism in Pakistan

State of denial

Mar 5th 2009 | LAHORE
From The Economist print edition

The culprits behind the latest outrage

AFP



Not a cricket shot

FOR many foreigners, events in Lahore, the capital of Punjab province, on March 3rd confirmed their view of Pakistan as a hotbed of terrorism. A dozen masked gunmen ambushed a convoy carrying Sri Lanka's national cricket team, killing six policemen and two others, and wounding seven cricketers and a British coach. But for many Pakistani pundits, quick to appear on television, events fitted another familiar pattern: Pakistan as victim of Indian conspiracy.

In January Punjab's intelligence service had warned the police that India's spies were planning to attack the Sri Lankan team. Now the pundits claimed the ambush was intended as retaliation for the attack on Mumbai in November in which more than 170 people were killed, to show that Pakistan was a security risk. As evidence, they pointed to the assailants' escape: Pakistan's Islamist terrorists, went the argument, make sure to kill themselves as well as their victims. To bolster their case, they cited India's crowing over its decision not to send its own cricket team, for which Sri Lanka's was standing in, and its leaders' complaints, after the attack, about Pakistan's intact terrorist "infrastructure".

This far-fetched analysis, and the refusal to accept the reality of Pakistan's terrorist problem, owes much to the religious-nationalist leanings of many young but influential television presenters. Their opinions were formed by the distorted education they received under General Zia ul-Haq, Pakistan's dictator from 1977-88. So, despite many occasions when al-Qaeda has claimed attacks in Pakistan, many Pakistanis refuse to believe the group exists, let alone that it is dangerous for their country.

In fact, however, a former high-ranking Pakistani intelligence official has given *The Economist* a much more plausible explanation for the Lahore attack: that it was the handiwork of Lashkar-e-Jhangvi (LeJ). This sectarian group, which also put New Zealand's national cricketers to flight in 2002 after it exploded a bomb outside their hotel in Karachi, now works closely with an al-Qaeda/Taliban network in Pakistan's tribal areas.

It has been blamed for several atrocities, including the bombing last September of the Marriott hotel in Islamabad, for which al-Qaeda this week also claimed responsibility, in a message to the Saudi embassy in the capital. According to the intelligence source, the security forces last year caught an LeJ terrorist, who is still in custody. He has confessed to being trained to carry out a suicide mission during a proposed international cricket tournament last year that in fact was shifted elsewhere.

In a society beset by Islamist violence, including some 60 suicide-bomb blasts in each of the past two years, this latest attack was less bloody than many, but nonetheless remarkable. Sri Lanka's decision to send its revered cricketers to Pakistan, despite fears for their safety, was a brave act of South Asian solidarity from a country with terrorism troubles of its own. Its foreign minister this week visited Pakistan and offered condolences for the deaths of those killed protecting his compatriots.

That Pakistan has proved unable to provide effective security for the Sri Lankans, despite extraordinary efforts by Lahore's police in the face of a manifest threat to their lives, is dispiriting. It seems reasonable to suppose that many of Pakistan's dwindling foreign visitors, of all stripes, will now stay away from the country. At a time of economic duress, partly related to the country's deepening insecurity, this will have repercussions far beyond cricket.

For many Pakistanis, however, the outcome for the country's favourite game will be bad enough. It is almost unimaginable that other national sides will want to tour Pakistan in the near future. Pakistan's

ambition to be one of the hosts of the 2011 World Cup is surely in tatters. Though not quite the source of public hysteria that it is in India, cricket is one of Pakistan's few unifying forces. Moreover, at a time of national shame over the many atrocities committed by Pakistan-reared militants at home and abroad, their cricketers' performances were an export of which Pakistanis could be genuinely proud.

Bangladesh after the rebellion

Bad or mad?

Mar 5th 2009 | DELHI
From The Economist print edition

Sheikh Hasina has a good mutiny

AP



EVEN as the corpses of 56 army officers—victims of a mutiny on February 25th and 26th by Bangladesh's paramilitary border force—were being retrieved from a mass grave and sewers in Dhaka, the conspiracy histories were being written.

Rabid nationalists, on the fringe of the opposition Bangladesh Nationalist Party (BNP), blamed India for the uprising, which occurred at the huge headquarters of the Bangladesh Rifles (BDR) force, then flared at paramilitary camps around the country. Some also accused the ruling Awami League party of plotting it, to rid the 45,000-strong Rifles of the army officers who lead them, and create a private political army. Others blamed some faction within the regular army, which has bred over a dozen coup attempts in Bangladesh's short history. Indian newspapers, just for a change, pointed the finger at Pakistan. After all, the League's two-month-old government, led by Sheikh Hasina Wajed, wants better relations with India.

But in the absence, so far, of any evidence for these theories, another, almost-equally bizarre, explanation seems possible: that the mutiny, which claimed 74 people in all, including two army wives, was a scarcely planned act of madness by some hot-tempered men with guns.

The shooting began during, or shortly after, a meeting of several thousand BDR soldiers with their top brass. At the meeting, the paramilitaries voiced old grievances about their low pay and inferior status, as compared with the pampered army's. A posse of BDR men carrying automatic rifles interrupted it. Most, or all, of the dead officers were killed within an hour or two. But the mutineers—and their startled comrades, a much bigger group—held out for another 30 hours, while government emissaries urged them to surrender. Sheikh Hasina promised them an amnesty. Yet the BDR gave up their weapons only when the army sent in the tanks and Sheikh Hasina threatened to use them.

She has emerged from this crisis with her reputation enhanced. Having recently ended two years of rule by army-backed technocrats, during which she was jailed on corruption charges, Sheikh Hasina has reason to fear the generals. Yet she co-operated with them during the mutiny. When army officers began to rage at the killing of their comrades, especially as the bodies were disinterred amid excited casualty reports, she announced that there would be no amnesty for the killers, including five alleged ringleaders arrested this week.

But hopes that the crisis might lead to better relations between the mutually-loathing main parties have already been dashed. Having quietly supported the government while the bullets were flying, the BNP reverted to oppositional type this week, calling for the resignation of the home minister. Indeed, when Sheikh Hasina warned of more mutinous trouble on March 3rd—"The game is still on and the conspirators are not taking a break"—it might have been her political opponents she had in mind.

Afghanistan's presidential elections

Better than the alternative

Mar 5th 2009 | KABUL
From The Economist print edition

The timing of the presidential election is bogged down in a political quagmire

WHEN political impasse last loomed in Kabul, in 1992, it ended with the then prime minister bombarding the presidential palace with rockets. This time the verbal volleys are fierce, but hostilities show no sign of migrating from the floor of the parliamentary chamber. For that Afghans will be thankful. Nonetheless, this is the first bout of political turmoil Afghanistan has faced since it adopted a constitution in 2004.

At issue is the date of a presidential election and the right of President Hamid Karzai to remain in office until it occurs. Under Afghanistan's constitution the president must step down on May 21st, and elections must be held 30 to 60 days earlier, ie, by April 21st at the latest.

AFP



Karzai estimates the size of his support

Last month the independent Election Commission postponed the vote, on security and logistical grounds, until August, in line with a year-old consensus. But since November last year that consensus has frayed. Opposition leaders have hardened their position, demanding that if Mr Karzai wants to contest the election in August, he should step down in May, though it is unclear how the vacuum would be filled. If he stays in office until August, they argue, he should refrain from standing for re-election.

Mr Karzai, for his part, appears determined to stand from the presidential palace. Few doubt that the stature and trappings of the office, notably the power of patronage and appointment, give the incumbent a significant advantage at the polls. So on February 28th Mr Karzai changed tack, perhaps with a view to wrong-footing his opponents. He called for a reversion to the original April timetable. This is impossible: 170,000 election workers are not yet trained; 18m ballot papers are not yet printed; and 17,000 additional foreign troops to ensure security during the elections have not yet arrived. On March 4th the Election Commission overruled the president and upheld the August schedule.

The commission, however, cannot plug the constitutional gap. Mr Karzai will argue that he has striven to abide by constitution, and hope to remain in office. If he does, the opposition will seek to wring concessions in exchange, such as a big paring down of his powers. If compromise is impossible, Mr Karzai could declare a state of emergency in late May, giving himself an automatic two-month extension. He would then need to appeal to parliament for a further one month to limp on until the August polls. This would damage his political standing, and create friction.

Behind the current crisis, however, sits a longer-term and healthier process for a country more familiar with civil war than constitutional legality: that of learning to work within an untried and sometimes contradictory constitution.



Afghanistan's northern neighbours

Road blocks

Mar 5th 2009 | MANAS AIRBASE, KYRGYZSTAN
From The Economist print edition

No easy routes into Afghanistan



"WELCOME to Freedom's Frontier," reads a wooden sign at the pine-clad headquarters of America's Manas airbase in Kyrgyzstan. With its picnic tables, mountain views and community-outreach programmes, this site provides a tranquil vantage-point for the war in Afghanistan, just 90 minutes' flight away. But Kyrgyzstan said in February that it was closing Manas, which the American-led coalition uses to ferry thousands of troops into Afghanistan each year and as a base for refuelling planes for combat aircraft.

Behind the decision was Russia. It has long bristled at America's military presence in Central Asia and has just offered the Kyrgyzstani government $2.3 billion in aid. That dwarfs the $150m America says it pays Kyrgyzstan annually in rent, fees and assistance. It is just possible that America may yet salvage an agreement. Since Kyrgyzstan faces energy shortages and a mass return of migrant labourers from Russia, it may be susceptible to persuasion. Kurmanbek Bakiyev, the president, has given America six months to leave.

Even so, the row points to looming trouble. America is scrambling to find not just an alternative military base, but supply routes into Afghanistan, as convoys from Pakistan come under more frequent attack. It is stitching together a "northern distribution network" to bring non-lethal supplies such as water and fuel into Afghanistan through Russia and Central Asia. This week it claimed progress. A train of supplies from Latvia snaked through Russia to reach Kazakhstan. Russia has granted access to the rail network; but it dates from tsarist times, and is showing its age.

Moreover, sceptics say Russia's help for America is likely to prove highly conditional. Pavel Felgenhauer, an independent analyst in Moscow, says Russia wants concessions on issues such as missile defence and NATO enlargement. Since its war in Georgia last year, Russia has had an extra choke-point on routes into Central Asia, thanks to tanks and artillery stationed near Georgia's main road-and-rail artery.

Russia itself is only part of the problem. Paul Quinn-Judge, a Bishkek-based analyst for the International Crisis Group, a think-tank, says America is "getting out of one logistical nightmare in Pakistan, but may be moving into another". General David Petraeus, the American commander in the region, paid a visit last month to Uzbekistan. Its president, Islam Karimov, agreed to the use of his country as a transit route for non-lethal supplies, and might offer America other facilities if Manas does indeed close. But that might force America into an awkward choice. Mr Karimov's Soviet-vintage regime jails and tortures its opponents. When America complained in 2005 about the regime's bloody suppression of protests in the town of Andijan, Mr Karimov shut America's base at Khanabad.

He kept a German one at Termiz and is making new overtures to the West. The few human-rights activists in the region hope that renewed American engagement could help their cause. One, Surat Ikramov, says Uzbek jails now hold 300 political and 7,000-8,000 religious prisoners, and that the country is getting "more and more closed". It looks as if America may be heading for an awkward decision about what it cares about more: the logistics of its Afghan war or the state of human rights in other parts of Central Asia.

Japan's opposition

A bruiser bruised

Mar 5th 2009 | TOKYO
From The Economist print edition

A scandal for the opposition: Japan's political mess only gets worse

Reuters

Ozawa, backroom boy

TO BREAK the lock of the Liberal Democratic Party (LDP) on power, the main opposition, the Democratic Party of Japan (DPJ), made a pact with the devil. It promises a modern, transparent politics. Yet in 2006 it chose as its leader a master of the dark arts, Ichiro Ozawa, a political heavy, whose politics were honed in the back rooms of the LDP itself.

This pact seemed to be paying off. Mr Ozawa engineered a brilliant victory in elections for the upper house of the Diet (parliament) in 2007. And recently it looked as if the government would plop into the DPJ's lap after a general election that must take place by September. The ratings of the prime minister, Taro Aso, only plummet. Yet on March 3rd Mr Ozawa's political secretary was arrested and charged with taking illegal donations from Nishimatsu, a second-tier construction company, two of whose former executives were also arrested.

Mr Ozawa's supporters have rallied round him, calling the arrests a politically inspired conspiracy. Certainly, the Tokyo prosecutor's office has a thing against anti-establishment gadflies. Mr Ozawa says his aide is innocent and vows to stay on as leader. Yet even before the arrests, many DPJ members feared Mr Ozawa would be a liability as prime minister. Not only is his health poor, but he prefers life backstage to the limelight. The party executive backs him, but Mr Ozawa is fighting for his political life. Katsuya Okada, with a more co-operative streak, is ready to take over. He will first need to be forgiven for having led the DPJ into a resounding election drubbing in 2005.

Mr Aso is unlikely to use the DPJ's disarray to call a snap election. Voters might punish such opportunism. And unlike the opposition, Mr Aso at least has a response to an economic crisis which has seen exports fall by more than two-fifths. Soon he will announce his third and possibly biggest fiscal stimulus. This time, a collaborative approach will be tried, with a weekend retreat of economists, prefectural governors and other groups to agree on broad points. The plan is that this stimulus will pass in June, allowing the Diet to be dissolved and Mr Aso to attend the July G8 summit in Italy. If tensions within the DPJ break out into the open, the prime minister may feel that time is on his side. On the other hand, who is to say that the Tokyo prosecutors are not after corporate donations to the LDP too?

Vietnam's economy

In need of some snake-blood

Mar 5th 2009 | HO CHI MINH CITY
From The Economist print edition

A rescue plan for exporters

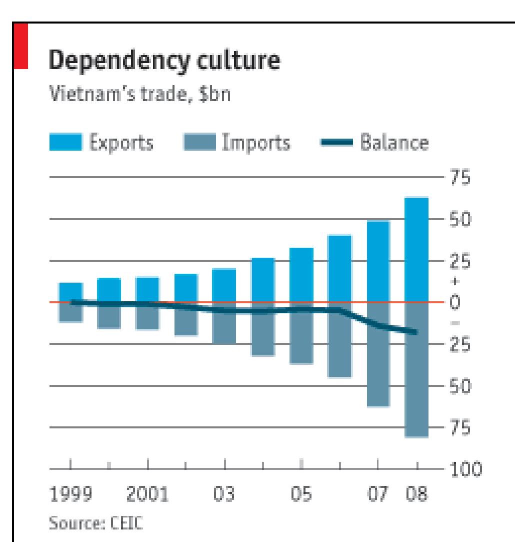
BUSINESS is booming for at least one Vietnamese entrepreneur: an old lady in a traditional conical hat whose tiny roadside stall faces the infant Ho Chi Minh Stock Exchange. To make her wares she decapitates small green snakes with a pair of scissors and drains the blood into a plastic bottle. Many Vietnamese men believe that drinking snake-blood enhances both good fortune and sexual prowess. The vendor, who also peddles pet turtles, says she is selling more of the stuff these days. "People are so worried about the future."

The global slowdown is casting a lengthening shadow over Vietnam's once-booming export-driven economy. Sales of more conventional consumer goods have slumped as the fast-growing middle class has stopped spending. Electronics shops say that Tet new-year holiday sales were down by as much as 50% compared with last year. The carmakers' trade association reports that sales tumbled by 68% year-on-year in January.

Like China, Vietnam has used manufacturing for export to transform a stale, closed economy. Last year it overheated. The government earned some plaudits for calming rampant inflation, which reached a year-on-year peak of 28% in August. But Vietnam is badly exposed to the sharp drop in demand in the West. Exports fell by 5.1% year-on-year in the first two months of 2009, with electronic goods down by 13.7% and shoes by 7.3%.

That is why government is now trying to relight the fire it had previously doused. It plans to boost spending this year by 23% (almost 100 trillion dong, or $6 billion, about 6% of GDP). Of this about $1 billion will subsidise loans to cash-strapped exporters. In the scheme's first month, commercial banks lent some 93 trillion dong, says the central bank.

An estimated 500,000 workers lost their jobs last year, and the government reckons a further 400,000 may be laid off in 2009. These are daunting numbers in a young country that needs 1m new jobs every year to absorb its growing workforce, now around 45m people. Like China, Vietnam does not have much of a state social-safety net. Laid-off factory workers tend to return to the countryside and rely on their extended families. But farmers will find it harder to cope without the money factory workers have been sending home. The prices of their produce, such as rice and coffee, have been falling.



Many economists believe that what Vietnam, like China, needs are not measures to sustain supply but incentives to increase domestic demand: investment in infrastructure, but also in health care and education, saving for which suppresses consumer spending. Vietnam's GDP expanded by 6.2% in 2008, the slowest rate for nine years. Most observers, including the IMF, think it will be lucky to reach 5% this year. Yet the government's target is still 6.5% and Nguyen Tan Dung, the prime minister, has predicted that the economy will start to pick up as early as May. As weeks go by, that makes him sound more like a seller of snake-oil than of snake-blood.

The state of the Chinese nation

Yes, prime minister

Mar 5th 2009 | BEIJING
From The Economist print edition

Facing daunting problems, Wen Jiabao makes clear transparency is not the answer

IN HIS first state-of-the-nation speech since the global economic slump began battering China late last year, Wen Jiabao, the prime minister, painted a grim picture of the troubles ahead. With the help of massive government spending, China was still aiming for economic growth of 8% this year. But he revealed few new ideas about how this is to be managed.

At the opening on March 5th of the annual session of China's parliament, the National People's Congress (NPC), Mr Wen said China was facing "unprecedented difficulties". But his speech revealed nothing of any stimulus plans beyond the 4 trillion yuan ($585 billion) in spending announced in November last year. Vain hopes for a new package had helped to buoy global stockmarkets.

Chinese leaders clearly do not want to be fettered by democratic debate as they pursue their dimly outlined efforts to keep the economy growing. The NPC is a rubber-stamp affair at the best of times. But this year China has in effect dropped any pretence that it has a serious role. To save money, officials say, it has been shortened to nine days. Its schedule is as leisurely as ever. The sparse official agenda makes no mention of any special discussion of stimulus measures or of the big spending promised on health-care reform.

Mr Wen said the budget deficit this year would rise to 950 billion yuan. According to the official press, this would be nearly three times bigger than the previous record deficit in 2003. Mr Wen said that, at less than 3% of GDP, it would still be "safe" (America's budget deficit is likely to rise to more than 12% of GDP this year). But in spite of widespread calls, including even in some official newspapers, for more to be revealed of the government's budget and especially its stimulus plans, the Ministry of Finance's budget report to the NPC stuck to its usual broad-brush approach.

Many critics in China have complained that not enough has been earmarked for health care and other welfare programmes. The budget calls for a 38% increase in central-government spending on health care this year, compared with a 24% increase in total spending. In January the government said 850 billion yuan would be spent on health-care reforms over the next three years. In the long run it is hoped this will help stimulate the economy by reducing the tendency to save money for medical emergencies. As a share of GDP, government health-care spending has long been very small by world standards.

China's armed forces, pampered by double-digit annual increases in spending for 19 of the past 20 years, get a raise of around 15%. This is down from nearly 18% last year and could be intended as a sign that in these hard times welfare-related programmes have a higher priority. But the defence budget is so opaque that the government's figures have to be treated with enormous scepticism. The army will stage a vast parade through Beijing in October to mark 60 years of Communist rule. A big naval review is also planned for April. The cost of these is secret.

The NPC meeting, and a parallel one of its 2,000 member advisory body, could see a few glimmerings of dissent, at least in the corridors. There have been numerous worries expressed on the internet and in some Chinese newspapers that the government's spending programme could lead to huge waste and corruption. Mr Wen said the government would ensure that spending would receive "proper oversight" and that government affairs should be made "more open and transparent". His speech, however, was not a promising start.

The government will be relieved if delegates keep debate to a minimum. It worries that a slowing economy might trigger an explosion of discontent among the fast-growing ranks of the unemployed. The fear is that open dissent in the ranks of party-picked legislators could make things worse. It also frets that, like last year, the NPC meeting could be overshadowed by unrest in Tibet. March 10th marks the 50th anniversary of an uprising against Chinese rule and security forces in Tibetan areas are on full alert for possible protests. The public-security budget is due to rise by nearly a third this year, up from 9% last

year. Mr Wen is preparing for the worst.

Hillary Clinton in the Middle East

All charm and smiles

Mar 5th 2009 | CAIRO AND JERUSALEM
From The Economist print edition

With just that faint hint of menace

AFP



AS THE emissary of a new president ostensibly still in "listening mode", Hillary Clinton was *politesse* personified during her first swing as secretary of state through the Middle East this week. Inevitably, however, the locals also listened attentively to their visitor, hoping for clues about the direction of American policy under Barack Obama not only towards Israel and the Palestinians but also towards Syria and Iran. In the event, she gave hints of both change and continuity—reassuring, disappointing or worrying, depending on the point of view of her various audiences.

For Israelis and Palestinians, the message was more continuity than change. Mrs Clinton wants to help Gaza recover from the battering it received during the recent war between Israel and Hamas. She attended an international meeting in the Egyptian resort of Sharm el-Sheikh, which promised some $4.5 billion in aid. But, for now, she seems determined to deal only with Mahmoud Abbas and his Palestinian Authority in the West Bank and not with Hamas, even though, despite Israel's recent onslaught, the Islamists still control Gaza. If Hamas wants to talk, America continues to say, it must recognise Israel, renounce violence and accept previous deals signed by the Palestine Liberation Organisation—the conditions set down not only by America but also by the UN.

Music to Israel's ears? Only up to a point. For the Egyptians are now once again coaxing Mr Abbas's Fatah movement and Hamas into power-sharing talks that are set to launch in earnest next week and could, if successful, produce a Palestinian government that the rest of the world can deal with. Since the Gaza war, moreover, voices calling for accommodation with Hamas, even if it does not swallow all the required conditions, have grown louder in diplomatic circles, especially in Europe. And Mrs Clinton used her visit to make it clear to the incoming Likud-led government of Binyamin Netanyahu that if Israel wants to shun Hamas, it needs to make a better fist of co-operating with Mr Abbas. She emerged from a meeting in Ramallah with the Palestinian president on March 4th to deliver a stern reprimand to Israel for demolishing Palestinian homes in Jerusalem (but not, publicly, for its general policy of settlement in the West Bank).

Worse from the point of view of Mr Netanyahu may be the new administration's firm intention to reach out to Syria and Iran, two countries consigned by George Bush to an "axis of evil" but now targets for diplomatic "engagement" if they are willing to unclench their fists. The American State Department

announced during Mrs Clinton's tour that she was sending the most senior American delegation for several years to Syria. This portends trouble in American-Israeli relations. Although many Israelis, including much of the defence establishment, support the idea of peace with Syria, Mr Netanyahu has set his face against paying the inevitable price, namely the return of the Golan Heights, captured in the 1967 war.

America's approach to Iran so far is warier. Mrs Clinton joined a chorus of local leaders warning Iran to stay out of Arab affairs. Mr Obama, it transpired this week, has written to the Russian president, Dmitry Medvedev, noting that any reduction in the nuclear threat from Iran would reduce the need for America to deploy a missile-defence system that Russia loathes in eastern Europe. This appears to be an attempt to entice Russia into accepting tougher economic sanctions on Iran—part of the stick Mr Obama intends to brandish if the Iranians fail to grasp his dangled carrot of talks. Israel grumbles that if Iran talks to America at all it will do so just to play for time while perfecting its plans for nuclear weapons.

Mrs Clinton was careful to keep out of Israel's internal politics. She pledged to work closely with whatever government emerged at the end of Mr Netanyahu's still fraught coalition-building. But she did reiterate strongly America's commitment to a two-state solution for Israel and Palestine, an idea that Mr Netanyahu stolidly refuses to endorse, even though his obstinacy may prevent him from building the broad-based coalition he seeks.

Having encountered a second rebuff from Tzipi Livni in his efforts to form a broad government including her centrist Kadima party, Mr Netanyahu is now wooing Ehud Barak, the Labour leader, who does not conceal his desire to stay on at the defence ministry. But many in Kadima and Labour want nothing to do with Mr Netanyahu unless he accepts the need for a Palestinian state, not just the "economic peace" that he is offering. Mrs Clinton said nothing on her tour to undermine the idea that Israel remains a special friend. But on Gaza, settlements and engagement with Syria and Iran, a pricklier American relationship may now lie ahead.

Congo and Rwanda

A jungle alliance that may just endure

Mar 5th 2009 | GOMA AND KIGALI
From The Economist print edition

Two rival countries have joined forces to hammer the militias that have devastated eastern Congo for so long

SCRUFFY but happy, Timothy is keen to talk about his new life in Rwanda. A former captain in a guerrilla army across the nearby border in the dense jungles of eastern Congo, he has spent most of his life fighting against the present government of Rwanda. Now, however, he has turned himself in and gone back to the land of his birth, where he is on a two-month course run by his former adversaries to reintegrate him into Rwandan society.

He starts early every morning, packing in six hours of "discussion" on such topics as patriotism, the history of Rwanda, and "the role of youth in national development", before breaking for football. Timothy realises that he must "forget everything about guns" and "learn to co-operate with civilians". He is learning a lot of other useful stuff too. "Men used to beat women," he says, but apparently you cannot do that any more. "When she is wrong, you have to talk to her, not treat her like a goat."

Timothy's re-education at the Mutobo demobilisation centre near Ruhengeri in north-west Rwanda is the best hope in years that the long, devastating conflict between Rwanda and Congo may be abating. He and hundreds like him are being persuaded to give up their arms by the force of a new alliance between the two old foes. If this new alignment of military and political power eventually leads to peace in the region, the Rwandan genocide of 1994 may at last cease to cast its long shadow over the Great Lakes region (see map).

Timothy used to fight for the Democratic Forces for the Liberation of Rwanda, better known by its French initials, FDLR, an ethnic Hutu group born out of the *génocidaires* who fled from Rwanda into Congo after they had led the killing of some 800,000 Tutsis and moderate Hutus in just six weeks in the name of a racist ideology that called itself Hutu Power. The Hutu forces were eventually stopped by the mainly Tutsi Rwandan Patriotic Front (RPF), which chased them into the Congolese jungle to wreak revenge. One of the RPF's leaders was Paul Kagame, who has been Rwanda's president since 2000.

Ever since 1994, the Rwandan government has dedicated itself to eliminating what it regards as an existential threat lurking just across the border. In 1996 Rwanda invaded Congo, which supported the FDLR, to eliminate the Hutu threat, provoking Africa's first continental war: it drew in Angola, Burundi, Chad, Sudan, Uganda and Zimbabwe, all helping Rwanda to topple Congo's dictator, Mobutu Sese Seko, and replace him with their own candidate, Laurent Kabila, father of Congo's present president, Joseph Kabila. In the ensuing war, some 4m people lost their lives through bullets and disease, the biggest single bloodletting since the second world war. So the original genocide begat an even bigger tragedy, for which many blame Rwanda.

A ceasefire was declared in 2003, but the war rumbled on. Only now are the Hutu soldiers of the FDLR giving up in big numbers. The reason is that after 14 years of fighting in the provinces of North and South Kivu, the governments of Rwanda and Congo finally signed a mutually beneficial agreement in November to squash each other's enemy guerrilla outfits. Thus, remarkably, Congo invited Rwanda's army in to help its own army to smash the FDLR. After operating for five weeks on Congolese soil, Rwanda's 4,000 troops began withdrawing at the end of February.

In return, the Rwandans decapitated their own proxy militia, long an enemy of the Congolese government, by arresting its lethal leader, Laurent Nkunda, now in custody in Rwanda. His 6,000-strong outfit, the National Congress for the Defence of the People, caused murderous mayhem in North Kivu last autumn, ostensibly to defend ethnic Tutsis against the killers of the Hutu FDLR in the same area.

Just as FDLR soldiers like Timothy have been persuaded to accept demobilisation by the Rwanda's Tutsi-led government, so General Nkunda's Tutsi soldiers are being integrated into Congo's army as part of the deal. Many child soldiers are deserting General Nkunda too. Most of the returnees are boys; the girls, closely guarded as sex slaves, will be harder to bring home. Save the Children, a British charity, says it has received some 300 former child soldiers in North Kivu since late January, when the Rwandan-Congolese offensive started, an unprecedented rate of return.

Most of these children will be reunited with their families. The former FDLR soldiers are being promised new lives in Rwanda. Their Hutu *génocidaire* leaders had told them that if they ever tired of being guerrillas and returned to Rwanda they would be imprisoned or shot by their Tutsi enemies. In fact, the hundreds of former FDLR killers in Mutobo are being subjected to nothing nastier than indoctrination. And at the end of the course each ex-fighter gets $200 in local currency, no small sum for most Rwandans, to start a business. Considering that some of these Hutu ex-combatants will be returning to villages where they once terrorised their Tutsi neighbours, it is a magnanimous act.

But a solid peace cannot yet be guaranteed. The Rwandans say their coalition's main military aims have been achieved. They have forced the Hutu-led FDLR from its jungle bases, stopped it from controlling the local coltan mines which had financed it, and persuaded hundreds of FDLR soldiers to give up. This should leave just the *génocidaire* leaders to hunt down.

But the killing could resume

However, events in a village such as Pinga, north of the FDLR stronghold of Walikale, deep in the jungle, suggest a less certain outcome. Though driven out of the village, the FDLR is still lurking nearby. As a small UN team arrives, a Zambian peacekeeper points out a column of smoke emerging from a hill overlooking the village a kilometre away. This is probably the FDLR warning nearby units that outsiders have arrived so its fighters should stand down for the moment. By night, despite the presence of a small UN force plus a Congolese army contingent, the FDLR does much as it likes. The previous evening it had captured 35 villagers to get intelligence about Rwandan and UN troop movements. It freed five men but raped and held 30 women.

The fear is that the FDLR, far from being smashed, will emerge from the jungle more vengeful and desperate than ever. Without their mineral revenues, the remaining guerrillas will have to survive by attacking civilians for food and money. The Congolese army is too weak and the UN force too small to protect the villagers properly. At its worst, the FDLR could mutate into another lethal force like Uganda's Lord's Resistance Army (LRA), a fanatical rebel group that terrorises and lives off people along Congo's northern border.

The feebleness of Congo's army in the face of the FDLR and LRA points to one of the main reasons for the new Congolese-Rwandan alliance: the continuing weakness and ineptitude of the Congolese state. Unable to control its eastern and north-eastern provinces, Congo has had to outsource its counter-insurgency to its former enemies. Just as Rwanda was invited in to fight alongside the Congolese to defeat the FDLR, so Congo has also accepted south Sudanese and Ugandan troops to swat the LRA. So far that operation has failed.

Mr Kabila took a big political gamble by inviting Rwandan troops, his old enemy, onto Congolese soil. Yet he reckons that if he can stabilise the north-east and exploit its huge mineral wealth effectively, his gamble will have paid off. Congo's economy has been battered by the world's economic turmoil and by a slump in mineral prices, so Mr Kabila badly needs some good news. That was partly provided by the Rwandan government's arrest of General Nkunda; the Congolese now want Mr Kagame to hand the rebel leader over to be tried for war crimes.

With friends like Bill and Tony

For Rwanda, its decision to end its hostility to Congo is dictated by a candid reassessment of its own

weaknesses. Since the genocide, Mr Kagame has claimed the moral high ground in his dealings with foreign governments. Rwanda has reaped a big financial dividend, especially in Western aid. Both Tony Blair, Britain's ex-prime minister, and ex-President Bill Clinton have helped Mr Kagame. But when it became clear last year that Mr Kagame was winking at General Nkunda's efforts to carve out a Tutsi-dominated enclave in eastern Congo by force, and that the general was not just defending local Tutsis from Hutu militias but killing thousands of civilians, world opinion began to turn against Mr Kagame. A UN report embarrassed him by exposing General Nkunda's links with Rwanda's government. Worried by Rwanda's worsening human-rights record, the West began to withhold aid.

So Mr Kagame has turned on the general, and Rwanda may now settle for an informal sphere of influence in North Kivu instead of sponsoring local militias. Its influence would be all the greater if it started to buy more of the Kivus' lucrative minerals, food and timber and import them legally, distributing them to the rest of the region. This would fit nicely with Rwanda's grand ambition, as it detaches itself ever more from Francophone Africa, to become a service hub for all of east Africa.

Zimbabwe's farms

Whose land?

Mar 5th 2009 | HARARE
From The Economist print edition

Despite a recent power-sharing deal, white-owned farms are still being taken

ROBERT MUGABE was in a festive mood as he celebrated his 85th birthday on February 21st in a small town north of Harare, Zimbabwe's capital. "Land distribution will continue!" he told his 2,000 or so partying guests. "The few remaining white farmers should quickly vacate their farms, as they have no place there…I am still in control and hold executive authority." Zimbabwe's president seemed to have forgotten his recent power-sharing deal with Morgan Tsvangirai and his Movement for Democratic Change (MDC), which included an agreement to end the seizure of white-owned farms.

Of the 5,600-odd white commercial farmers in Zimbabwe when Mr Mugabe came to power in 1980, barely 250 are still on their land. Output has slumped; 7m people, in a resident population of perhaps no more than 9m, now rely on food aid to survive. Yet in the past month 75 white farms are reported have been occupied or threatened with invasion, often with police connivance. And prosecutions against 140 white farmers are being hurried through the courts to force them to comply immediately with eviction notices served in defiance of a landmark ruling by an African regional court in November.

This sudden upsurge in farm seizures suggests that Mr Mugabe's ZANU-PF is determined to settle the land issue to its own liking before Mr Tsvangirai's people can stop them. When the MDC was set up in 1999, many of Zimbabwe's white farmers backed the party. Though Mr Tsvangirai wants land redistributed, he says it must be done fairly and by law. In his inaugural address to Parliament this week, he called for a "halt to the wanton disruptions of productive farming". Those who believe they can "move onto a viable farm and steal the crops…are wrong."

In a case brought by 78 white farmers last year, a tribunal of the Southern African Development Community (SADC), a 15-country group, held Mr Mugabe's land-reform programme to be illegal, since it violated a SADC treaty requiring respect for civil rights and the rule of law, and was racially discriminatory in targeting only white farmers. The tribunal said it might have reached a different conclusion had the "spoils of expropriation" not been awarded mostly to ZANU-PF people.

Didymus Mutasa, the minister then responsible for distributing the land, retorted that the judges must be "day-dreaming" if they thought Zimbabwe, a signatory to the SADC court, would heed the ruling. Several of the 78 farmers told by the judges that they could keep their farms are among those now facing imminent eviction.

Reuters

Western donors have made respect for property rights, as well as for other human rights, a precondition for resuming development aid. This week, in a rare gesture of conciliation, a prominent human-rights campaigner, Jestina Mukoko, was freed on bail after nearly three months in prison, along with some 16 others out of 40 whose release the MDC had specifically demanded. Roy Bennett, a dispossessed white farmer whom the MDC had named as deputy agriculture minister in the new government, is also expected to be released on bail; he had been arrested on an array of charges, including insurgency, on his return from exile to Zimbabwe on the day the government was sworn in.

But over the land seizures Mr Mugabe seems loth to back down. Few dispute that land redistribution was sorely needed. In 1980 the 5,600 white farmers owned 15.5m hectares of land, most of it good, at an average of nearly 3,000 hectares each, including cattle and game ranches and some vast, often foreign-owned, estates. At the same time 780,000 black smallholders subsisted on 16.4m hectares of generally poorer communal land. Often less than five hectares in

size, these smallholdings lacked title deeds and thus could not be used as collateral for loans. According to Justice for Agriculture, a mainly white farmers' lobby, by 1995 whites still had 10.9m hectares. The British government says it stopped subsidising resettlement schemes at that point because the land was being dished out corruptly.


The joys of redistribution

Sam Moyo, head of the African Institute for Agrarian Studies in Harare, maintains that Zimbabwe's land redistribution has been "broad-based and largely egalitarian". It is untrue, he says, that most of the land taken since 2000, when the seizures began, went to Mr Mugabe's relatives, friends and other ZANU-PF faithful. More than two-thirds, he says, was allocated to 140,000 poor families, most getting around 20 hectares. He concedes that 30% of the redistributed land, consisting of bigger and better farms, was handed out to 15,500 officers in the army and security services, judges, ministers, members of parliament, civil servants and so on.

The professor blames drought, lack of affordable seed and fertiliser, price controls and a dearth of credit for the disastrous results of the confiscations, although he also admits that many of the new black owners lacked farming skills. Whatever the truth is, the upshot is that vast tracts of once-productive land now lie idle. Moreover, more than 200,000 experienced black farm-workers and their families—well over 1m people—have lost their livelihoods and homes, along with their dispossessed white masters.

In this week's address to Parliament, Mr Tsvangirai repeated a promise to audit all the land to ascertain who owns what, to eliminate multiple ownerships and to ensure security of tenure for all farmers, black and white. He also sought help from abroad to compensate former (nearly all white) farmers whose land had been seized and to provide much-needed support for new farmers. But the MDC accepts that it cannot restore the seized land to its former owners. Most have gone. Even under an MDC government, it is doubtful many would come back. It will be many years before Zimbabwe's farms, whoever owns them, will prosper again.

Algeria

Steady but stale

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From The Economist print edition

Why Algeria is still dull and gloomy

AS YOUNG women emerge in chattering, self-confident groups from the university building on the Didouche Mourad Boulevard in Algiers, it might seem that the country's decade-long nightmare of violence never happened. These students were toddlers when the first-round election victory of an Islamist party in 1992 brought army tanks onto the streets. Up to 200,000 people may have been killed in the eight years of strife that ensued. Today's students may have just left primary school when Abdelaziz Bouteflika was declared president in 1999, amid claims of electoral fraud. Now, it seems, he is to lead their country for yet another five years, due to a constitutional amendment to let him run for a third term. His re-election is expected on April 9th, despite a handful of well-vetted opponents. Mr Bouteflika is bent on staying in power despite reports of bad health that have dogged him for years.

Even his harshest critics admit that his ten years as president have brought—or at least coincided with—an end to the darkest years of conflict. He enticed most of the armed Islamist groups down from the hills with amnesties. He has sacked some of the generals who ran the no-holds-barred counter-terrorism of the 1990s. The secret service, whose listeners were said to lurk on every street corner, is no longer so nosy.

Districts of Algiers once in the grip of local "emirs"—gang leaders with an Islamist veneer who sometimes displayed their victims' heads on pikes—have regained a humdrum normality. The police and gendarmes, once targeted for assassination by Islamist militants as they helped out with the dirty work of arbitrary detention and torture, have been retrained and try to behave well, at least in public.

The avuncular Mr Bouteflika has helped reduce the bitterness between the large body of opinion receptive to Islamist ideas and the secular-minded Francophone intellectuals terrified of the Islamist Salvation Front that won the poll in 1992. Though many female undergraduates in Algiers wear the Islamist headscarf, their bare-headed fellow students are equally at ease. Local commentators, however, detect a groundswell of religious observance.

Mr Bouteflika tries to surf the trend rather than resist it. His government includes the Islamists of the Social Movement for Peace, who trace their line back to Egypt's Muslim Brothers. Their views are echoed in mosque sermons broadcast every Friday on state television.

AFP



The average Algerian, not to mention foreign investors, can only guess at the shifting alliances and tensions in the civilian and military establishment. But it is hard to find much enthusiasm for Mr Bouteflika's third term. He is at least a known quantity in a murky political landscape, but few Algerians are proud of their country's politics. Many ask, "Where has all the money from oil and gas gone?"

In fact, a lot of new housing and infrastructure has been built. The outskirts of Algeria's second city, Oran, are dotted with scores of new high-rise housing blocks that have replaced slums. A new east-west motorway is to extend to Algeria's long-closed border with Morocco. The government paid off most of the country's external debt when oil prices were high.

Middle-class Algerians bought so many imported Renault, Peugeot and Hyundai cars that the government slapped on a sales tax to reduce traffic jams. The sales of a mobile phone operator, Djezzy, owned by Egypt's Orascom, boomed. But a decision by Orascom's

construction arm in 2007 to sell some cement plants it had built in northern Algeria to France's Lafarge—at a fat profit and without consulting Algeria's government—is said to have turned Mr Bouteflika against foreign investors.

Yes he can…have five more years

Now they can own only 49% of any Algerian company. Nor can they buy the land on which to build a factory. Many investors lack confidence in Algeria's oft-changing legal system. In December a licensing round for 15 blocks of oil and gas exploration got only nine bids, as the big foreign oil companies grumble about Algeria's tax burden. The government says it wants to liberalise the economy. But it moves very slowly. Algeria's private businessmen chafe under a heavy bureaucratic yoke.

Some younger people who fled abroad in the 1990s have come home, bringing back valuable professional experience. But many leave again. A recent opinion poll found that 29% of men between 15 and 34 "certainly" intended to emigrate to Europe or elsewhere illegally; 21% said they "probably" would. Youths on a street corner in Oran explain that Europe offers more and better-paid jobs, more human rights, more fun. Under Algeria's continuing state of emergency, many people still fear wrongful arrest. Businessmen fear punitive tax demands if, say, they offend an official.

Islamist violence has recently begun to bubble up again. Armed Islamists, most of them in the hilly Berber region of Kabylie, have become bolder. Almost every day, newspapers report a traveller robbed, a businessman kidnapped, an army patrol attacked or a villager killed for co-operating with the army in the past.

So Algeria is still a long way from true normality. Major-General Muhammad Mediene still runs the security service, as he did in 1990s, when even officials admit that more than 6,500 people were killed after last being seen in the hands of the security forces. Under five more years of Mr Bouteflika, do not expect drastic change.

Turkey

The enduring popularity of Recep Tayyip Erdogan

Mar 5th 2009 | ANKARA AND VAN
From The Economist print edition

But will popularity blunt the reforming zeal of Turkey's prime minister?

Illustration by Peter Schrank



AT A recent rally in the predominantly Kurdish city of Van, in south-east Turkey, Recep Tayyip Erdogan was in his element. Turkey's prime minister rattled off his government's achievements, bellowing out to a jubilant crowd, "22 primary schools, five health clinics, 82 kilometres of paved roads".

With only three weeks to go before countrywide municipal elections on March 29th, Mr Erdogan has hit the campaign trail in a confident mood. Most opinion polls suggest that his mildly Islamist Justice and Development Party (AKP) will clobber its opponents yet again. The secular opposition Republican People's Party (CHP) is so desperate that it no longer talks much of the risk of *sharia* law or the dangers of Kurdish separatism. Instead it has resorted to recruiting female candidates who wear the Islamic headscarf and calling for the Kurdish new year to be declared a national holiday.

None of this is likely to make much impression on voters, most of whom will stick with the AKP. Nor will it affect Mr Erdogan's policies. Ever since he was handsomely re-elected in the 2007 general election, his critics say that the prime minister has become increasingly autocratic, drifting away from the reformist agenda that first brought the AKP to single-party rule in 2002. It does not help that the European Union is continuing to prevaricate in the long-drawn-out talks about Turkey's membership application, sapping enthusiasm for reform in Ankara.

As further evidence of autocratic tendencies, the critics point to Mr Erdogan's continuing quarrel with Aydin Dogan, the country's biggest media mogul, whose outlets have exposed corruption scandals in which individuals close to the government have been implicated. Mr Dogan believes this explains why he faces a $500m claim for allegedly unpaid taxes, a charge he passionately denies. "Turkey has become a republic of fear," complains Sedat Ergin, managing editor of *Milliyet*, a leading Dogan newspaper.

On the international front Mr Erdogan is raising eyebrows for more than his (understandable) loss of enthusiasm for the EU. He has also attracted unfavourable attention for his virulent attacks on Israel, especially during its war in Gaza, and for his budding friendships with Iran and Sudan.

Among ordinary Turks, however, Mr Erdogan remains the most popular and charismatic leader since a visionary former prime minister and president, Turgut Ozal. One old Kurdish woman in Van sums up the mood: "Tayyip is one of us, he treats us as equals." Mr Erdogan's popularity has even forced his enemies, notably the country's hawkish generals, who have often tried to topple his government, to back off.

Mr Erdogan's touch was in evidence in Van as he and his vivacious wife, Emine, handed out toys to ragged children. Elsewhere in Turkey, the government has been giving away coal, school textbooks and, as the elections draw near, even fridges and washing-machines to the poor. Such profligacy has angered the IMF. A long-delayed standby facility with the fund has yet to be signed because of differences over public spending. But a defiant Mr Erdogan insists, in an interview, that Turkey's economy is robust enough to get through its current troubles without IMF help.

Like most countries, Turkey has been hit by the world financial crisis. The Turkish lira is slipping against the dollar, GDP is expected to shrink this year and unemployment is rising. Yet, partly thanks to tough regulation, not a single Turkish bank has gone under. The economy is wobbling but remains on its feet.

No wonder Mr Erdogan is so confident. Many worry that another big electoral win may swell his head further. Yet for all his pre-electoral posturing, there are signs that his pragmatic self may come back. He seems to have grasped that he has an image problem. He has hired a new, affable spokesman and is courting foreign journalists for the first time. In an interview with this correspondent, he freely bestowed smiles (and dried fruit) as he insisted he was no autocrat. "I can be impatient at times," was all he would admit.

The launch of Turkey's first official Kurdish-language television channel in January and the government's calls for the establishment of Kurdish literature departments at state universities have raised hopes of more reforms. After years of mutual hostility, Turkey and the Iraqi Kurds are at last talking. A deal with separatist guerrillas from the Kurdistan Workers' Party (PKK), who have been fighting the Turkish army since 1984 from bases in northern Iraq, is said to be on the table. Turkey's generals are tentatively compliant.

All of this will make Mr Erdogan's meeting this weekend with Hillary Clinton, America's secretary of state, especially significant. Mr Erdogan will brief her on talks with another former Turkish foe, Armenia. Once the local elections in Turkey and the April 24th anniversary of the mass killings of Ottoman Armenians in 1915 are past, it is expected that formal ties will be re-established between the two countries and their long-closed border will be reopened. This may also stave off attempts by America's Congress to pass a resolution calling the massacres a genocide.

An IMF deal is widely expected after the local elections as well, though Mehmet Simsek, the economy minister, insists that the IMF must drop some of its more "orthodox" demands. On progress towards joining the EU, the next big test for Mr Erdogan will be whether he can budge a bit more on the opening of Turkish ports and airports to Cyprus, shaming Turkey's detractors within the EU (notably the French) into stopping their efforts to undermine the membership talks.

The appointment of Egemen Bagis, a sharp young English-speaker, as Turkey's first cabinet-rank EU negotiator suggests that Mr Erdogan may make a fresh effort to put the EU talks back on track. But if he is genuinely serious, he will have to take a second shot at rewriting Turkey's constitution, crafted by the generals after a military coup in 1980. His previous attempt at this almost led the Constitutional Court to ban the AKP on the ground that it was trying to impose *sharia* law. That is because he started off in piecemeal fashion by trying to ease bans on the Islamic headscarf in government offices and universities. Mr Erdogan would do better this time if he worked with the opposition to produce a constitution that met the wishes of all Turks, not just pious ones.

Spain and its regions

A new landscape

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From The Economist print edition

Regional nationalists lose ground in both the Basque country and Galicia

IT HAS been an unhappy week for Spain's vociferous regions. On March 1st the nationalists were ousted from power in Galicia. Even more strikingly, the Basque nationalists lost a 29-year stranglehold on their regional government. Debate over devolution, tinged by the bloody violence of ETA terrorists, has consumed much of Spain's political energy ever since the return of democracy three decades ago. Has the tide now turned?

Reuters



López does it for Zapatero

Before that question can be answered, the Basque confusion needs to be cleared up. Only when votes from abroad are counted, a process that began late this week, will the make-up of the Basque parliament certainly be known. That will decide if the Basque Socialists, whose share of the vote rose by a third, can form a minority government. The foreign vote is unlikely to bring much relief to Juan José Ibarretxe, the Basque premier for the past decade. His Basque Nationalist Party (PNV) came out ahead of the Socialists, but his coalition partners were virtually wiped out. For the first time since a Basque parliament was formed in 1980, a majority of deputies are neither nationalist nor separatist. And also for the first time, the PNV is unlikely to provide the *lehendakari*, as the Basques call their premier.

"This is a moment of historic importance," maintains Eduardo Madina, a Basque Socialist deputy in Madrid. Mr Madina, who had a leg blown off by an ETA bomb attack seven years ago, hails a new era that "will bring tranquillity both to the Basque country and to Spain". The absence of ETA attacks during the campaign was one sign of the new calm. ETA reportedly recruited only ten new activists last year. "Many people, especially the young, think of ETA as a relic from the past," says Carmen Gallastegui, president of the Basque Foundation for Science.

The Basque Socialist leader, Patxi López, has pledged to bridge the divide between nationalists and non-nationalists. But he needs the support of the conservative People's Party (PP) to rule, and they are unnatural allies. The PP is the main opposition to the Socialist government under José Luis Rodríguez Zapatero in Madrid. And one issue the parties fight over most fiercely is the future of the Basque country and how to deal with ETA.

Yet the PP despises Basque nationalism even more than Mr Zapatero, so it is offering to help Mr López to take power. Many Basques would prefer a grand alliance between the Socialists and the PNV, but that looks unlikely to work. If the vote from abroad does not give Mr López one more seat, he will need the backing of a second party besides the PP, either the hard left or a prickly Basque centrist group. "It could be messy and unstable," concludes Kepa Aulestia, a commentator for the Vocento group of newspapers, of any minority government under Mr López.

Even if Mr López manages to become *lehendakari*, the fog of Basque politics will not fully clear. Perhaps 10% of the voters went to the polls only to lodge a protest. Their parties, which were deemed to be fronts for ETA, had been banned. For the first time those parties are absent from the Basque parliament. Had their votes counted, they would have tipped the balance of power firmly back to the nationalists.

Nor will his party's sensational Basque success make Mr Zapatero's position in Madrid much easier. His minority government relies on the backing of a handful of PNV deputies, who will now probably pull out. So Mr Zapatero may have to look elsewhere, to the hard left or the Catalan nationalists, for backing.

Moreover the PP, previously in some trouble, won convincingly in Galicia. The nationalists they threw out of power were junior partners in a coalition led by local Socialists. Galicia is Mr Zapatero's biggest loss to the PP in the five years since he became prime minister, and is thus a significant boost to the PP's

embattled leader, Mariano Rajoy, himself a Galician.

Meanwhile the economic news in Spain goes from bad to worse. Unemployment touched almost 3.5m in February, and could reach 20% of the workforce next year. So Mr Zapatero, who was elected to a second term last year, faces big political problems. In June elections to the European Parliament will test the mood across the country. Right now recession-hit Spaniards have deeper concerns than their regions' pretensions. The European elections will show whether a different tide is turning—against Mr Zapatero himself.

Top jobs in France

Elitism rules OK

Mar 5th 2009 | PARIS
From The Economist print edition

Despite his anti-elite rhetoric, Nicolas Sarkozy keeps promoting énarques

"TO MY mind, the president of the republic's powers of appointment are too great." Thus Nicolas Sarkozy a few years ago, when crafting the image of a crusading politician ready to take aim at France's elite. Yet as president he appears not only to enjoy these powers, but even to be extending them. What happened to the anti-establishment campaigner?

The latest fuss concerns a soon-to-be-merged bank, Caisse d'Epargne/Banque Populaire. Nobody contests the government's right to pick its boss: it is injecting €5 billion ($6.3 billion) into the merged bank. Nor is the competence of its choice, François Pérol, in doubt: he is a former investment banker, high-flying technocrat and graduate of the elite Ecole Nationale d'Administration (ENA). But Mr Pérol is also Mr Sarkozy's economic adviser at the Elysée who oversaw the merger talks.

Charges of cronyism have been lobbed from all sides, not just the left. Jean Arthuis, a former centre-right finance minister, called the appointment "extremely shocking". Mr Sarkozy insisted he had been given the go-ahead by an independent ethics committee, though it turned out that this was only a personal opinion from the committee's president—the committee itself has yet to meet. *Libération*, a left-wing newspaper, accused the president of "lies". Edouard Balladur, a former centre-right prime minister, said that the government was "taking a risk".

Handled less imperiously, Mr Pérol's appointment would probably have passed smoothly. In 2007 the ethics committee rejected only 2% out of 1,014 cases it reviewed of civil servants moving to new jobs. Indeed, it is so common for French leaders to place their advisers in top jobs outside the civil service that there is a word for it: *pantouflage*. Under Jacques Chirac, Jean-François Cirelli, now deputy head of GDF Suez, an energy giant, was parachuted into GDF from the prime minister's office. And Agustin de Romanet, head of Caisse des Dépôts et Consignations, a state investment bank, landed there shortly after leaving the president's office.

Mr Sarkozy is merely following suit. When the government helped to bail out Dexia, a Franco-Belgian bank, last year, he picked a former adviser, Pierre Mariani, to run it. He has recently changed the rules so that the head of France Télévisions, the public broadcaster, is a direct presidential nomination. Another one-time adviser, Frédéric Oudéa, was picked last year to run Société Générale, a private-sector bank—though not, in his case, by Mr Sarkozy.

To be fair, the president has given parliament new powers, including a right for its committees to block senior presidential nominations. A list of these has yet to be drawn up, however, and it remains to be seen how much the committees will use their new power. For now, Mr Sarkozy seems as keen as his predecessors not just to promote his chums but also, more surprisingly, to favour ENA graduates. Unlike two of his three predecessors, he is not an *énarque*, and he has often taken pot-shots at ENA for training an insular elite.

Only a few weeks ago, Mr Sarkozy again lashed out at ENA, telling his party faithful that "a political family is made up of fighters, people who like a struggle, who like to convince, to take risks: that's perhaps the difference between us and a famous school for senior civil servants." Of his 17 cabinet ministers, only Valérie Pécresse is an *énarque*. Yet like Mr Cirelli and Mr de Romanet (and Mr Balladur and Mr Oudéa), both of Mr Sarkozy's nominees as bank chiefs, Mr Mariani and Mr Pérol, are *énarques*—as is Xavier Musca, Mr Pérol's replacement in the Elysée.

France and agriculture

Back to the farm

Mar 5th 2009 | PARIS
From The Economist print edition

The financial crisis lends new charm to a primary industry

AFP


Bullish for some

MORE than 520 silky cows and heaving bulls, one weighing over 1.8 tonnes; 550 sheep of 33 breeds; goats, pigs, donkeys and hatching chicks; regional wines, cheese, foie gras, cured hams and other produce from local *terroirs*. Every year, the Paris farm show brings prize beasts, huge crowds, thick mud and the whiff of the countryside to the capital. Given the recession, the organisers expected a low turnout this year. In fact, with 670,000 visitors over nine days, it reached an all-time record.

Why did so many flock to celebrate the declining business of farming? One explanation is political ritual. It has become a rite of passage for any aspiring politician to turn up and stroke a cow's bottom or clutch a piglet. Jacques Chirac, first elected in rural France, never missed a visit as president; one of his prime ministers once spent seven hours at the show. Sure enough, Mr Chirac dropped in this year. So did Martine Aubry, the newish Socialist leader. Even President Nicolas Sarkozy, who comes from a posh Parisian suburb and never looks less at ease than when confronted by livestock, found two hours to idle away at the fair. A year ago, he made headlines by snapping "Get lost, you jerk," at a bolshy visitor. With publicity like that, any show ought to be a sell-out.

But another reason could lie in the recession itself (the fair also coincided with a half-term holiday). As industry and banking shed jobs, dull old farming acquires fresh appeal. This year's fair pitched its message to the young. The idea was "to get rid of the image of the pitchfork and the wheelbarrow, which have increasingly been replaced by the computer," says Jean-Luc Poulain, the fair's manager. He notes that there are 80,000 unfilled farming jobs, even though unemployment in France is 8.3% and rising.

Perhaps there is another factor, too. Amid head-spinning talk of trillion-dollar debt and credit-default swaps, old-fashioned farming seems reassuringly tangible. France is the European Union's biggest agricultural producer. The French remain intimately tied to the produce of their local *terroirs* through regional cuisine and open-air markets. With its roots in the soil, farming is everything that complex financial capitalism is not. You know what you put in—and what you get out usually ends up on the dinner table.



Extremist nightmares

Mar 5th 2009
From The Economist print edition

The European Union is one reason not to fear the spectre of the 1930s

Illustration by Peter Schrank



A WHIFF of cold-war menace hung over the European Union summit on March 1st. A "new iron curtain" threatens to divide rich western Europe from the east, declared Ferenc Gyurcsany, Hungary's prime minister, as he pleaded for a €180 billion rescue plan for the countries of central and eastern Europe. Mr Gyurcsany had a second plea: for eastern countries to secure early membership of the single currency. Neither idea found favour.

Germany's Angela Merkel said aid should be given on a "case by case" basis, as eastern countries had "very different" needs. As for speeding up euro membership, she thought not, though newcomers might get faster entry into a scheme to peg currencies to the euro. The Poles, Slovaks and Czechs were also hostile to the Hungarian plan. Their economies are in better shape than debt-laden Hungary or credit-crunched Latvia, and they fear contagion from the belief that eastern Europe is uniformly troubled.

But there is another reason why Mr Gyurcsany's cold-war rhetoric failed to resonate: another period, the 1930s, haunts Europe even more. This year violent anti-government protests in Greece, Latvia, Bulgaria and Lithuania have spooked leaders across the EU. The European elections are in June. This time, extremists on right and left may do well—including in Hungary, home to some of Europe's least savoury political groups. Could 1930s economics lead Europe back to 1930s politics?

There are reasons to hope that liberal, multiparty democracy is in pretty good shape across the EU. For a start, everybody knows how the 1930s ended. Europe then was a more dangerous place: its poorest citizens were starving and welfare safety-nets were non-existent or inadequate. At times, Italians in Sardinia ate wild plants to survive. In Denmark unemployment topped 40%, and the government bought surplus cattle from desperate farmers. In 1933 almost-two thirds of Greek public spending went on servicing foreign debts, before the country defaulted. Equally, the first world war had left Europe with much unfinished business. Despite hyperinflation and punitive bills for reparations, Germany remained a big power, yearning to redraw its borders. Austria and Hungary were wounded ex-giants. Italy dreamt of controlling the Adriatic. The Soviet Union's rise sparked instability as far away as Spain.

Yet for all the differences, intriguing echoes from the 1930s can still be heard. It is not that bits of Europe are flirting with fascism again. It is rather that the same issues irk voters then as now—and politicians are responding to them in similar ways. Today's German and French governments talk loudly about clamping down on tax havens: this is a highly visible way to seek extra revenue and punish errant plutocrats. Almost 80 years ago, an identical outrage gripped Europe, when French police in 1932 raided the Paris offices of a Swiss bank for customer records, coming away with the names of French members of

parliament, newspaper editors and a brace of bishops. (In a nice irony, the raid persuaded livid Swiss authorities to enshrine banking secrecy in law.)

Before the depression, France also had one of Europe's most open labour markets, home to millions of Poles, Czechs, Belgians, Italians, Spaniards and Swiss, plus impressive numbers of political refugees. But between 1932 and 1935, a string of laws and decrees set quotas on foreign workers and stopped them moving from job to job. Tens of thousands, mostly Poles, were eventually expelled by force. The middle classes also protected themselves: new laws closed the French medical and legal professions to foreign-born graduates, often Jewish refugees.

Today British tabloids rage about jobs for migrants, seizing on Gordon Brown's infamous phrase about creating "British jobs for British workers". Spain, which welcomed immigrants in boom times, is offering unemployed foreigners money to go home. Italy's Northern League wants a freeze on non-EU immigration and last year pushed for the expulsion of EU migrants without adequate means of support, a measure aimed at Roma, or gypsies, from Romania. The expulsion plan was dropped only because it fell foul of an EU directive on freedom of movement.

Holding the line for liberalism

And therein lies the biggest reason to think that the 1930s will not be repeated. EU membership binds national politicians into a set of essentially liberal, free-trading, internationalist standards.

It is true that competition rules and the freedoms of the single market are being sorely tested, as politicians try to steer rescue funds to domestic companies, banks and workers. But among EU leaders there is a consensus on the need to defend "fundamental rights". The EU can be expected to block blatantly discriminatory laws on housing, employment or schools. No hothead nationalist can close borders to a neighbour's goods.

Governments can be taken to court or threatened with suspension. But the EU also operates by peer pressure. This can be pompous and ineffective, as in 2000, when European leaders shunned high-level contacts with Austrian politicians because Jörg Haider, a far-right politician, had joined the ruling coalition. That boycott fell apart when Austria's government was found to be sticking to mainstream policies. Or it can be brutal and effective: in 1998 the EU warned Slovaks not to re-elect Vladimir Meciar, a nasty nationalist, if they wanted to join the club.

Bad things could happen as this crisis deepens. In one nightmare, a fragile EU member could become a failed state. But the EU stands for international solidarity and interdependence. Its maddening complexity amounts to a permanent compromise between competing interests that also makes it a bulwark against extremism. That may not always make Brussels popular with voters. But it does make one thankful that the EU exists.

Charlemagne now writes a blog, which is open for comment at Economist.com/blogs/charlemagne

Correction: Eastern Europe

Mar 5th 2009
From The Economist print edition

In our leader, "Argentina on the Danube?" (February 21st), we said Hungary's gross government debt was over 100% of GDP. In fact, it is 33%; the 100% figure includes private as well as public debt. The table in last week's briefing on ex-communist economies ("The whiff of contagion", February 28th) listed the wrong credit ratings. A corrected version is now online.

The picture in our story on spies in Estonia ("How many more?", February 28th) was wrongly captioned. It showed Sergei Yakovlev, not Valery Zentsov. Sorry.

Monetary policy

Now for something completely different

Mar 5th 2009
From The Economist print edition

The Bank of England acts to boost the money supply

Illustration by David Simonds



JUST as the supposedly improbable keeps on happening to banks in the financial crisis, so Britain's economic managers are finding themselves adopting policies they never dreamed would be necessary. The savage downturn induced by the credit crunch has brought the Treasury centre stage, as it throws billions at banks and revives the lost art of active fiscal policy. The Bank of England, for its part, is breaking ever more unconventional ground.

On March 5th the central bank advanced to the frontier of orthodox monetary policy, lowering once again the interest rate it pays on the balances that commercial banks hold with it as liquid reserves. The half-point reduction brought the base rate down to 0.5%, probably the final stage in an extraordinarily swift downhill journey from 5% in early October.

Not content with that, the Bank of England crossed the frontier by announcing the start of "quantitative easing". Central banks typically set interest rates to regulate the economy, pushing them up when it is running hot, pushing them down when it is running cold. Once the base rate gets close to zero, that approach no longer works, however chilly the economic outlook. But if the Bank of England can no longer lower interest rates, it can still raise the monetary base (cash and commercial-bank reserves), which gives it another way to boost the economy.

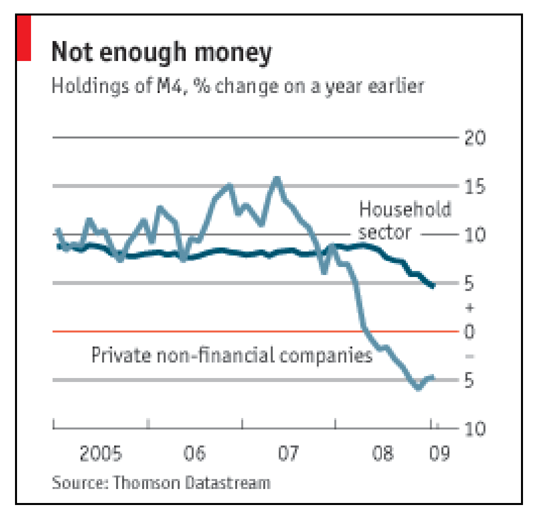
The central bank has already started buying private-sector assets, such as commercial paper, in an attempt to get credit flowing again. But these purchases are being financed by the issue of Treasury bills. Quantitative easing is new territory. The Bank of England will buy gilt-edged government securities as well as private assets to the tune of £75 billion ($105 billion), and, crucially, will pay for this with its own money. That alarms many people, who fear that the border being crossed may be an inflationary Rubicon. For though the Bank of England will pay for the purchases by crediting the accounts of commercial banks, it is creating money just as surely as if it were printing notes.

The policy may jangle inflationary nerves but it is in fact designed to combat deflation, the new

bogeyman. Consumer-price inflation has already dropped from a commodity-driven peak of 5.2% last autumn to 3% in the year to January. The central bank now expects it to reach 0.7% by the end of 2009, well below the 2% target. The broader retail-prices index rose by just 0.1% in the year to January, the lowest since 1960, and looks sure to turn negative soon. Even in two years' time—the horizon over which monetary-policy settings have their maximum effect on prices—the bank forecasts that consumer-price inflation is likely to be just 0.5%, with a one in three chance that prices will be falling. In a debt-laden economy such as Britain's, deflation is the last thing anyone would want, as it increases the real weight of the burden.

That inflation projection reflects the exceptionally deep recession that is expected this year. The Bank of England is forecasting that GDP will decline by 3% in 2009, the biggest fall since the second world war; and it fears that the outcome could well be even worse. The economic reverse is opening up spare capacity on a scale that will exert big downward pressure on prices even though the steep fall in the value of the pound has made imports dearer.

Indeed, the main purpose of quantitative easing is not to send the money supply into orbit but to stop it from crashing. On the face of it, the M4 measure of broad money (cash and deposits) has been growing fast. But the increase has been concentrated in specialised financial businesses and thus barely affects overall spending. By contrast, the broad money held by households has risen at a worryingly slow rate over the past year, and holdings by private non-financial firms have actually been dropping (see chart). This cash squeeze on companies is one reason why they have been running down their inventories, which is exacerbating the severity of the recession.



In theory, the Bank of England should be able to reverse these adverse trends by buying assets on a fairly modest scale. That in itself would raise the broad money supply as the central bank pays for its purchases from institutional investors such as insurance companies. And the impact might be much greater. Central-bank money is "high-powered", as Milton Friedman, the doyen of monetarism, once said. The initial increase in deposits could be multiplied several times as banks find themselves with excess reserves, which they lend in successive rounds, producing yet more deposits and further loans.

But this account assumes that banks are keen to extend credit and are being held back only by insufficient reserves. That is not the case now. They are loth to lend because they are worried that they do not have enough capital to meet losses on their existing loans. Moreover, after the liquidity scares of the past couple of years, they may prefer to hold more reserves in relation to their deposits. So the boost from quantitative easing could prove limited. And even if the supply of money were increased, its velocity of circulation might fall, leaving spending unaffected. "There is nothing mechanical or automatic about the policy, and there are many links in the chain," points out Jonathan Loynes of Capital Economics, a consultancy.

This highlights the importance of the government's attempt to get credit flowing by insuring dodgy bank assets. Together with a further infusion of public capital, the effect of the scheme for Royal Bank of Scotland has been greatly to raise its ratio of capital to risk-weighted assets. The bank has pledged to expand its mortgage and corporate loan-book in Britain by £25 billion ($35 billion) in 2009 and the same again in 2010—an increase of 10% a year. Lloyds, undermined by its acquisition of troubled HBOS, is next in the queue.

Yet quantitative easing is no silver bullet. The experience of Japan, which tried it in the early years of this decade, is disheartening to those who hope for great things. Japanese banks hoarded their extra reserves, and the policy had little discernible impact on the broad money supply.

Even if the central bank's bold new strategy is not a sure remedy for Britain's economic plight, it is still worth trying, says David Miles, an economist at Morgan Stanley. As for the fear that it may eventually stoke an inflationary surge, the hope is that the Bank of England can reverse course and mop up excess money by selling back the assets once a recovery is under way. That is a job the central bank would surely much prefer to its current task of trying to rescue a sliding economy.



State-owned banks

The go-between

Mar 5th 2009
From The Economist print edition

Can a new agency put the banks back on track?

PA



A mandarin now humbled

JOHN KINGMAN, tall, bespectacled and very Oxford, is the epitome of a Treasury mandarin—which he was until November 3rd last year. Since then, still sitting in the Treasury, he has become at least half an entrepreneur as chief executive of UK Financial Investments (UKFI). Now operating out of a two-room office, the outfit was set up four months ago to manage the government's stakes in rescued banks. The Royal Bank of Scotland (RBS)—70% state-owned—and Lloyds Banking Group (43% state-owned) are currently within its remit. It will also, in time, cover two other banks—Northern Rock and Bradford & Bingley—of which the state is the proud sole proprietor. If, that is, the European Commission decides that the business plans the Treasury has drawn up for the two will not distort competition.

On March 3rd Mr Kingman was roasted at his first appearance before the parliamentary Treasury select committee for not having details of the burning issue of the day at his fingertips: the bonuses paid at RBS, particularly to Sir Fred Goodwin, its disgraced former chief executive. Mr Kingman's performance was described by committee members as "dozy" and "discourteous". Like a chastened schoolboy, the 39-year-old took his verbal beating.

But Mr Kingman's job is not easy, and just how active the state should be in managing the chunks of the economy it is being forced to take over is not obvious. UKFI is designed to be a buffer between the Treasury and the banks themselves. Its orders are to operate at arm's length from government and create value for the taxpayer as shareholder. It is meant to act as an exemplary institutional investor, respecting the rights of minority shareholders, despite the huge financial power the state has over the banks, while looking after the taxpayers' interests. UKFI has been described as a "Fidelity [after the American fund-management firm] with nuclear weapons".

No other country in this crisis has gone as far as setting up anything like UKFI. America's Treasury has established a trust to hold its 77.9% convertible-equity interest in AIG, an insurance group, and its equity stake in Citigroup. Other banks may follow that pattern. The German government has not yet indicated what it plans to do with its forthcoming 25% stake in Commerzbank. The Swiss government, for its part, holds convertible notes in UBS, the biggest Swiss bank, and controls an entity holding about $40 billion (£28 billion) of former UBS assets. That is closest to the "bad bank" model that Sweden set up to handle its banking crisis in 1992.

Keeping minority shareholders on board is the key to UKFI's eventual goal, which is to sell the bank stakes back into private hands and recover costs for the taxpayer. Full nationalisation would make that far more difficult, Mr Kingman argues. But John Thurso, an MP, sees UKFI caught in the worst of both worlds: "You have most of the risk and you don't have control." Meanwhile, a chorus of politicians is clamouring for different things from the banks that failed: a ban on bonuses, lending at less than commercial terms, withdrawal from offshore tax havens, preservation of high-street jobs.

Mr Kingman has recruited 11 members of a planned staff of 15, mainly private-sector "heavyweights" from the likes of Merrill Lynch and UBS. Such a small outfit will need to hire other advisers as it draws nearer to the giant car-boot sale of banking assets that it hopes one day to carry out.

The danger in this balancing act is that UKFI will help to perpetuate rather than dampen the profit-maximising culture at institutions whose privileged position as "too big or interconnected to fail" was exploited by bankers and ignored by regulators. Mr Kingman congratulates himself and his team for having cut a deal on bonuses at RBS (replacing cash payments with deferred promises, subject to

clawback, in the shape of subordinated debt). That may ensure “no reward for failure”, as the new mantra has it, but it does not eliminate the incentive to bet on egregious profits. UKFI is in danger of being captured by the bankers it is meant to discipline.

London's mayor

Getting it together

Mar 5th 2009
From The Economist print edition

Boris Johnson has so far confounded his critics but still lacks a vision for the city

PA



What's it all about, Boris?

ACROSS the river from Boris Johnson's mayoral base on the banks of the Thames sits London's chastened financial district. For the Conservative, elected last May, the view is a reminder of the burden of leading the capital through a recession. This was not in the job description when he launched his bid 18 months ago.

Judged by the low expectations that dogged Mr Johnson then, he has been a pleasant surprise, says Dermot Finch, the director of the Centre for Cities, a think-tank. The lazy right-winger of caricature has been a prolific and ecumenical policymaker. The mayor's record takes in libertarianism (he is chipping away at the congestion charge introduced by his predecessor, Ken Livingstone), populism (the unloved bendy buses are to disappear), Tory paternalism (alcohol is banned on public transport) and nods to the left such as his support for an amnesty for illegal migrants.

Mr Johnson has also avoided the calamities foretold by those who doubted that this media-friendly eccentric could manage the nuts and bolts of municipal government. The loss of senior staff, some through scandal, has been breezily survived. He was accused of prejudging the outcome of a police inquiry into Damian Green, a Tory MP arrested last year, and of speaking to him while it was going on, but an independent inquiry cleared him of breaching the mayoral code.

Yet the mayor has disappointed those who looked to him for an uplifting foretaste of the national Conservative government that is likely to be elected by June 2010. He cannot boast a defining idea to rival Mr Livingstone's congestion charge, for example. He has made explicit no particular vision of London; the previous mayor was vociferous in his enthusiasm for a multicultural capital and his glee at finance-driven London's transformation into a de facto city-state increasingly detached from the rest of Britain ("a Singapore of the West", in Mr Livingstone's words). For Len Duvall, the Labour leader in City Hall, Mr Johnson ruffles few feathers precisely because he is not pursuing a radical agenda. Meanwhile Tory wonks who wanted London to serve as a laboratory for their ideas grumble that many, such as crime-mapping, have been diluted.

It may be that a bold personality and cautious policies is the right mix for a London mayor; the office, with few formal powers, is ultimately a bully pulpit. Nor has Mr Johnson refused to pick fights to get things done. He dislodged Sir Ian Blair as chief of the Metropolitan Police; it is now led by Sir Paul Stephenson, regarded by the mayor as a more assiduous crime-fighter.

The real challenge for a man who faces re-election in 2012, and is said to harbour ambitions to lead his party, will be economic. Mr Livingstone presided over the city during the boom years when finance was

riding high. No such luck for his successor. Surveys by the London Chamber of Commerce reveal a bleak mood among businesses. In November the Local Government Association, which lobbies on behalf of town halls, said London would shed more jobs in the next two years than any other British region. The mayor has been slow to react, says Tony McNulty, the minister for London, who dismisses his recovery plan published in December as a "glossy document".

But Mr Johnson is pulling the few levers he has—the budget he passed in February froze the chunk of taxes raised by London boroughs that goes to support City Hall. He may, it is true, suffer from the rage of voters hit by a recession he can do little to soften. But he may also reap the political rewards of Keynesian projects for which he can claim scant credit, such as Crossrail, a new railway that will traverse the city, and construction for the 2012 Olympics.

Londoners might well emerge from recession craving a new, gentler life, and this may chime with Mr Johnson's distaste for the boundless growth and development pursued by his predecessor. A left-winger who became a fan of the City, Mr Livingstone was "a curious mix of Trotsky and Thatcher", says Tony Travers of the London School of Economics. Mr Johnson, by contrast, has pledged to improve Londoners' quality of life and courted voters in leafy outskirts who felt ignored by Mr Livingstone's urban focus.

These romantic-conservative instincts may be the raw materials for a distinctive vision for London one day: the Big Smoke as garden city, perhaps. Right now, Mr Johnson knows they would jar with voters who are happy to take economic growth wherever it can be found.

Protecting medical data

Sorry, that's personal

Mar 5th 2009
From The Economist print edition

The latest row over who gets to see confidential information

Illustration by Claudio Munoz



REGARDING that which he learns because of his profession, a doctor should "remain silent, holding such things to be unutterable". So said Hippocrates, and although doctors no longer take his oath, their patients' medical data are still confidential, protected by case law, the occasional statute (records on sexually transmitted diseases, for example, are extra-secure) and the General Medical Council, which can strike off loose-lipped doctors.

Yet on March 3rd eight medical organisations wrote to the justice secretary, Jack Straw, saying that this tradition was in serious danger. A clause in the Coroners and Justice Bill, now passing through Parliament, would enable ministers to "remove or modify any legal barrier to data sharing" in order to fulfil policy objectives. The move would have to be proportionate and to balance the public interest against that of individuals. But it would override existing data-protection and human-rights laws—and doctor-patient confidentiality.

Medics are not alone in their concerns about handing ministers such sweeping powers. But whereas other campaigners might be satisfied by checks and balances, medical folk think the only possible way to safeguard such vital and intimate information is to exempt health records entirely.

The government's response*, though bland, was not reassuring. It had "heard the concerns" and was "actively considering" ways to improve the bill. But, it reminded the medics, data-sharing would lead to unmissable benefits such as making it easier to identify pensioners who are struggling to heat their homes and children who are entitled to free school meals, and facilitating the switch to digital television.

None of which silences the rumours: the Department for Work and Pensions wants to compare applications for incapacity benefit with claimants' medical records; the "Spine"—a grandiose NHS database currently under development—might (if it can ever be made to work) be sold to pharmaceutical companies. Vivienne Nathanson of the British Medical Association plumps for cock-up, not conspiracy. "Lazy future-proofing" is what she thinks is going on: the government is drafting powers widely because it is better to be safe than sorry. But, she says, no one can point to a problem to which sharing medical data would be the best, or only, solution. Fraudulent incapacity benefit claims? Arrange independent assessments. A flu pandemic? Already covered by public-health laws. As for selling the NHS Spine, "this is patients' data, shared with their doctors only for the purposes of their own care."

Balancing patients' privacy and the public interest is hard. Should a doctor who suspects a teenager is suicidal talk to the parents? What if a patient's medical records would help another person's defence in court? Though countries weigh such competing interests differently, they generally recognise that privacy, though important, is not absolute. British doctors will break confidence to save the patient, or others, from serious harm: when they suspect child abuse, for example, or by notifying the authorities if a patient who suffers fits or blackouts keeps driving.

But such decisions are everything the new law would not be: proportionate, limited and made case by case. Even when patients are sure that what they say will go no further, they can be too bashful or scared to mention unpleasant oozings and ominous lumps. If they do not know who might be listening, they may clam up entirely.

* “Sharing data is essential for the delivery of efficient and effective joined-up public services to tackle crime, protect the public and to help everyone get access to new opportunities, developments and support. We want to create services that improve people lives and are simple and easy for them to use. One of the main objectives of the information sharing gateway is to assist with the delivery of improved services for the 21st century—such as the digital switchover, warm homes and free school meals. The Government has heard the concerns expressed about the scope of the power and—as the Minister (Bridget Prentice) made clear in Committee—we are actively considering ways in which it might be improved. Ministers are meeting with representatives from this group to discuss their concerns.”

Source: Ministry of Justice spokesperson via the Ministry of Justice Press Office



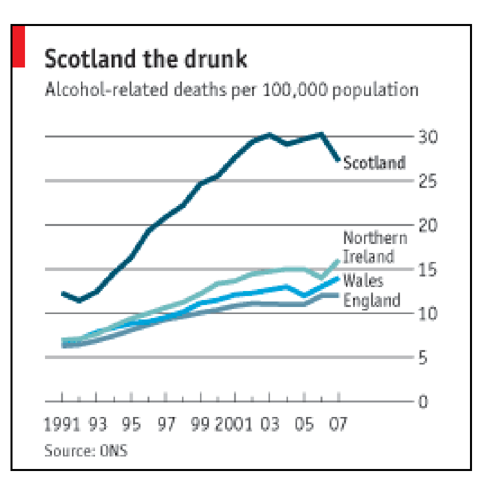
Scotland's drinking crackdown

Last orders

Mar 5th 2009 | EDINBURGH
From The Economist print edition

Mediterranean volumes with Viking bingeing lie behind a big drink problem

"DRINK is too cheap," says Nadin Saif, who runs a tidy little food and drink shop in Granton, a rundown area of Edinburgh. His current offers include 20 cans of Carling lager at £8.99, equivalent to 58p a pint (about £1 a litre). His profit is only 40p on these sales, but he cannot risk raising prices. A nearby Asda supermarket has even cheaper deals, including three litres of cider for a mere £2.73.



Bargains like that may not be around much longer. On March 2nd the Scottish government announced plans to address the country's drink problem, which causes nearly twice as many deaths as anywhere else in Britain (see chart). In what would be a first for Europe, it wants to introduce a minimum retail price for booze, based on the number of 10ml "units" of pure alcohol being sold. A price is not yet proposed, but the plans quoted research suggesting that a 40p-per-unit floor would reduce overall consumption by 2.6%, and cause heavy drinkers to cut down by the equivalent of 17 bottles of wine a year. Mr Saif is all in favour: it would force Asda's cider up to £6, leaving him free to raise his own prices.

Consumption in Scotland is worryingly high. Scots get through 11.8 litres of pure alcohol each year. Enough booze is sold for every adult to exceed recommended drinking limits every week. But grim though that sounds, it is in fact no worse than in France, Spain and Germany, where people drink just as much but are not as exercised about it. Luxembourgers, not obviously wild types, get through 15.6 litres per year. Are Scottish worries unfounded?

Maybe not. Whereas the French sip, Scotland, like the rest of Britain, gulps. A survey by Sweden's National Institute of Public Health asked how often drinking sessions turned into binges (defined as one person drinking a whole bottle of wine or more). French men reported bingeing 9% of the time, Italians 13% and Germans 14%. For British men, 40% of drinking sessions turned into binges. Women were similarly ahead of their continental counterparts.

Bingeing is not unique to Britain: Nordic countries are almost as raucous, with Swedish men bingeing 33% of the time. But they don't drink as much in total: annual consumption is less than six litres in Sweden. Britain's special curse is to combine northern European drinking habits with southern European volumes.

The Scottish Nationalist Party's minority government has only 47 votes in the 129-seat Scottish Parliament, and its opponents find various things in the proposal objectionable. The Conservatives think minimum pricing will make certain "alcopop" drinks cheaper, and so should be dropped. Labour and the Liberal Democrats deplore a plan to encourage local licensing boards to ban off-licence sales to people under 21 years old.

The government may nonetheless get its way, using existing laws to bypass a parliamentary vote on the minimum-price scheme. If the plan does go ahead, those south of the border will brace themselves for change at home. Attempts to smite vice in Scotland sometimes prepare the way for similar measures elsewhere: the Scots banned smoking in public buildings, for example, a year before the English did.

The biggest challenge, though, is changing public attitudes towards alcohol. In most countries, people under-report how much they drink: researchers found that in Germany, for instance, tipplers admitted to drinking only about 31% of the amount that sales data suggested was the real total. In Britain people owned up to 96% of it. "We were astonished," says Mats Ramstedt of Stockholm University. "In the UK people just don't seem to be embarrassed about how much they drink."

Bagehot

The odd couple

Mar 5th 2009
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How Gordon Brown and Barack Obama can and cannot help each other

Illustration by Steve O'Brien



THEY dressed almost identically. But the demeanours of Gordon Brown and Barack Obama in the Oval Office on March 3rd were very different. Mr Obama was fluid in his gestures and congenial in his repartee. Mr Brown was grave and jerky (though much happier than when he stiffly met George Bush in 2007). "I hear you gotta game," Mr Obama quipped when the prime minister challenged him to a tennis match. But it was hard to imagine the older, jowlier man smashing the lithe younger one.

The age gap matters. It is only 11 years—58 to 47—but it separates a generation born in the aftermath of the second world war, and brought up during the cold war, from one that reached political maturity as history ended, then started again. It is a gap that divides a cadre of centre-left politicians who learnt to love the market and cherish the Atlantic alliance from its less dogmatic successor. Meeting Mr Brown, the president implicitly rebuffed speculation that his roots in colonial Kenya had soured his view of Britain and murmurs about the symbolism of removing a Churchill bust from his office. He said the "special relationship" was "a link and bond…that will not break". But this American embrace felt more businesslike than visceral.

And Mr Obama is new as well as youngish. In 2000, when he failed to get a pass for the Democratic convention, Mr Brown had been chancellor of the exchequer for three years. When they were asked about the mistakes that led to the financial turmoil, Mr Obama's denunciation was scathing; Mr Brown felt able to offer only limited and defensive regrets. This is the vital luxury enjoyed by the neophyte leader. (Mr Obama was, however, conciliatory about another mess that Mr Brown is unable to disown: Iraq. He said Britain's loyalty over Iraq would "never be forgotten", allaying worries that a mission designed partly to cement the alliance might end up weakening it.)

Yet despite those diverging biographies, the talk about shared values was more than mere diplomatic guff. The two bookish men are in some ways as ideologically close as any such pair have been for decades. In his emphasis on using the state as a motor of renewal, not least in health care, Mr Obama sometimes sounds like a mid-1990s New Labourite. Mr Brown is familiar with most of the president's economic team. They agree on the broad outlines of many anti-crisis policies.

And they are both in a hurry. Mr Brown faces a general election next year that he seems doomed to lose. Mr Obama is in a rush of his own: to act before his domestic popularity wanes and his global stock falls.

He obviously cherishes Mr Brown much less than vice versa; but in assorted ways—in Afghanistan, in ameliorating the crisis—the prime minister can be useful to him.

The question is what this odd but oddly complementary couple might realistically achieve: for the world, and for Mr Brown's political prospects.

Ask not what you can do for Obama

There may be another way, besides Mr Obama's ancestry, in which the contemporary "special relationship" is tinged by the legacy of empire. Mr Brown, like many British leaders, has big ambitions—the sort of grand prime-ministerial aspiration that may be an unconscious grasp after Britain's lost, imperial, superpower status. He says he wants a "global New Deal" that will stretch "from the villages of Africa to reforming the financial institutions of London and New York", rhetoric that is eerily reminiscent of Tony Blair's yen to reach "from the deserts of northern Africa to the slums of Gaza" and beyond. Economically rather than militarily, Mr Brown wants to change the world. And like other prime ministers with such plans, he knows he can only manage it alongside America.

Mr Obama is less grandiose in his terminology, and is betting much less on the outcome of the G20 summit in London in April. But he endorsed Mr Brown's plea for other countries to give co-ordinated fiscal boosts, and for financial regulation to be revamped. Achieving that, and perhaps rebooting the International Monetary Fund, may not quite amount to saving the world; but it would be a start. The roles of the Bush era seem set to be partly reversed: where Mr Blair mongered Mr Bush's wars, it will be Mr Obama who sells financial reform to a fractious international community (though he will plainly sell nothing unless he thinks it in America's interests).

So there are modest grounds for hope that, with others, Mr Brown and Mr Obama might accomplish something. On the other hand, despite the president's controlled warmth—not ungenerous, considering Mr Brown's short political life-expectancy, and his lack of the renown that Margaret Thatcher and Mr Blair enjoyed in America—it seems unlikely that the Washington trip will deliver the transfusion of political momentum that Downing Street wanted and needs.

There was another diplomatic set on March 4th, when Mr Brown addressed a joint session of Congress. Like the summons to visit Mr Obama before other European leaders, it was a gratifying honour, bestowed on only four of his predecessors. His lavish praise of America (to say nothing of the honorary knighthood for Senator Edward Kennedy) won, at Bagehot's count, 19 standing ovations. Some in the audience were less ecstatic when he relayed his old opposition to protectionism and his new scepticism about unfettered capitalism. But Mr Brown beamed like a baby. It was his most hyped performance since his job-saving turn at last year's Labour Party conference, and like that one it was good, if gushy. Yet the mood at home is almost certainly too angry, the outlook too bleak, the cabinet too quarrelsome, for rousing paeans, Obaman stardust and the sheen of statesmanship to salve.

Bagehot now writes a blog, which is open to comment at Economist.com/blogs/bagehot



The worst crimes, the law and the UN Security Council

Braced for the aftershock

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From The Economist print edition

The International Criminal Court issues its first indictment against a serving head of government, Sudan's Omar al-Bashir

Reuters



THE quality of international justice is no longer quite so strained, but its reach is still uncertain. If Sudan's president, Omar al-Bashir, eventually graces the dock of the International Criminal Court (ICC) at The Hague to answer charges that he has been responsible for much of the appalling violence in his country's western region of Darfur, it will not be without a struggle.

Mr Bashir firmly denies all the accusations. He told his critics this week to dissolve their accusations in water and drink them. No matter: the warrant issued on March 4th for his arrest on charges of war crimes and crimes against humanity (charges of genocide were dropped, on a majority verdict, but can be reinstated with more evidence, said the judges) means that all 108 governments that have ratified the Rome treaty, creating the court, are obliged to help bring him to justice.

Yet many members of the African Union (AU) and of the Organisation of the Islamic Conference, about a third of the supposed posse (though Jordan is the only Arab member of the ICC), have long been up in arms over the court's desire to pursue Mr Bashir. Even the UN Security Council, which four years ago voted to refer the conflict in Darfur to ICC prosecutors, is split over what should happen now.

Other warrants were already out for Mr Bashir's "humanitarian affairs" minister and a leader of the government-backed Arab *janjaweed* militias, and more are likely. Yet the upheavals that will follow Mr Bashir's indictment could yet damage the court. Some African members had previously threatened to give up on the ICC if the Bashir case went ahead.

Undaunted, the court's chief prosecutor, Luis Moreno-Ocampo, last year pronounced all of Darfur a "crime scene", in light of evidence of killings and mass rape carried out by the *janjaweed* against the mostly black population of western and southern Darfur. He had added genocide to the charge-sheet, based in part on the appalling conditions and violence in and around the refugee camps in Darfur. The ICC's statute (like the UN genocide convention) defines genocide as acts committed with the intent to "destroy, in whole or in part", a national, racial or religious group. Intent is crucial and would have to be traced right up to the top. The UN-backed tribunal for Yugoslavia recently acquitted Serbia's ex-president, Milan Milutinovic, on war-crimes charges; though head of state when the deeds were committed, he was not deemed to have been in the loop.

The aftershocks of the effort to bring Mr Bashir to trial will also be felt far beyond The Hague. The joint UN-AU peacekeeping operation in Darfur, called UNAMID and now (counting police and civilians) some 15,000 strong, had already come under attack from local rebels; related arrest warrants have been requested against three rebel commanders. Reprisals against UNAMID could now follow from government-backed forces. Susana Malcorra, who heads all UN peacekeeping logistics efforts in New York, says she has had assurances "from all levels of government" in Sudan that UN personnel will be safe. Just in case, a separate peacekeeping operation in southern Sudan has withdrawn all non-essential staff.

Mr Bashir had accepted the hybrid Darfur force only under protest and after having had his arm twisted by China and others who, though happy to carry on doing oil business-as-usual, were embarrassed at being associated with a regime accused of such appalling atrocities. Despite assurances, will he now attempt to force out the blue helmets?

The omens are not good. Hours after the arrest warrant, several of the main Western aid agencies were told to leave the country, some within 24 hours. This was at the extreme end of the reaction people expected: a worrying sign that Darfur's civilians may again bear the brunt of the regime's wrath.

The UN Security Council has to decide whether to support or defer the warrant for Mr Bashir. Unlike the special tribunals set up to hear cases of war crimes and other egregious offences after the wars in Yugoslavia, the mass genocide in Rwanda and the violence of Sierra Leone's civil war (and another that belatedly opened prosecutions last month against surviving perpetrators of the Khmer Rouge genocide in Cambodia), the ICC is independent of the UN. Yet court statutes allow the council not only to refer cases to the ICC that would otherwise fall outside its jurisdiction (Sudan, for example, is not a member), but also to insist on deferring cases before the court for renewable periods of a year—and so possibly indefinitely.

The case for, and against

Those arguing for deferral, including a committee of African and Arab ministers lobbying the UN, say this would help find a solution to a conflict that may have already taken 300,000 lives and has forced 2.75m to flee their homes. Others, including several African governments, disagree; they fear the return to a "climate of impunity" that deferral could imply.

At first the request for the arrest warrants against Mr Bashir had provoked debate among the five permanent, veto-wielding members of the Security Council (three of which—America, China and Russia—are not members of the ICC) about possible deferral. But some terms had to be met: helping the peacekeepers' work, and making real progress on a peace deal.

Russia and China would still like the case to be put on hold. But the votes needed are not there. They might have been, says one senior Security Council diplomat, if Mr Bashir had put as much effort into peace in Darfur as he is alleged to have put into directing atrocities. It would certainly be hugely damaging for the ICC, and for global peace and justice, if the council were seen simply to crumple at threats from the latest thug-in-a-high-place.

AP



Rwanda: remembering

In fact, Mr Bashir would not be the first head of government to be had up in court for his alleged crimes: Liberia's Charles Taylor is on trial before a Sierra Leone court, convened in special session at The Hague; and Yugoslavia's Slobodan Milosevic beat his own likely conviction by tribunal only by dying before the trial was over. In both cases there were worries that bringing leaders to book would up-end peace efforts, but these proved unfounded. Still, both cases show that arresting "big fish" like Mr Bashir is virtually impossible without the co-operation of many governments, argues a new report on enforcing international criminal law published by the British-based Aegis Trust.

The ICC, like these earlier tribunals, brings charges only against individuals, not states. The hope of some Sudan-watchers is that by putting up a wanted poster for Mr Bashir, the ICC warrants will deepen fissures in the regime and force him out.

genocide

There are alternative paths to justice. The ICC’s rules allow it to take on cases only when other courts, national or regional, cannot or will not do so. But the justice has to be of an equivalent standard. Mr Bashir’s courts wouldn’t do. A hybrid one with both Sudanese judges and international ones, sitting in Sudan, was proposed last year by the country’s most prominent opposition politician, Sadiq al-Mahdi. Mr Bashir, however, shows no inclination yet to face charges, whoever puts them.

Some fear the ICC has already bitten off more than it can chew. It is conducting investigations in four countries: Congo, Sudan, Uganda and the Central African Republic. Its first actual trial, against Thomas Lubanga, a former Congolese warlord, at last got under way in January but had almost collapsed before it started when it was found that some evidence had been kept from defence lawyers. And the ICC has yet to win its first conviction.

Yet in some ways the court’s future looks brighter. Barack Obama has signalled a more benign approach to the ICC than his predecessor took. Far from ratifying the Rome treaty, signed originally by the Clinton administration, George Bush had America “unsign” it. He also sought to cajole governments into promising that no American would ever be delivered into the ICC’s clutches. Should they be, Congress passed legislation, known unaffectionately as the “Hague invasion act”, to authorise springing them by force.

Allowing Darfur’s mayhem to be referred to the ICC for investigation had signalled a change of tune, even under Mr Bush. Richard Dicker of Human Rights Watch, a New York-based monitoring group, says that Mr Obama should now appoint a bipartisan commission to look into ways of working more closely with the court, and making sure America’s own laws on crimes against humanity meet new international standards.

Mr Obama is unlikely to ratify the ICC treaty. America’s constitution brooks no higher authority over its citizens, and an amendment to change that would probably fail. Even so, as one of the original signatories, America, like Russia and China, can help shape the court’s future.

Some countries worry that “aggression”, the fourth crime the court is allowed to prosecute (along with genocide, war crimes and crimes against humanity), has yet to be properly nailed down. The court and the Security Council are at loggerheads over who could trigger an investigation: the council, supposedly the body with prime responsibility for international peace and security and where America, Russia and China all have vetoes, or the prosecutor and judges of the ICC.

Despite its absence from the ICC, America has done more than most, financially and diplomatically, to establish and support the tribunals for Yugoslavia, Rwanda and Sierra Leone. It has also backed the tribunal for Lebanon that has just started work to bring to book those responsible for the murder of the country’s prime minister, Rafik Hariri, and other crimes.

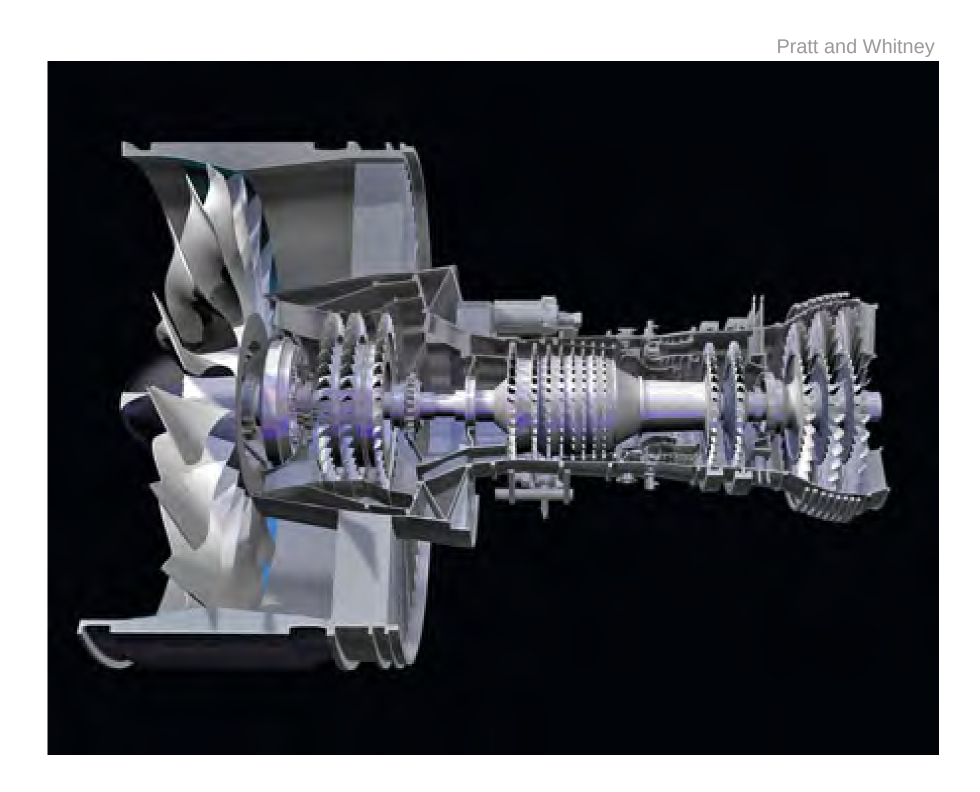
On many fronts, the thirst for internationally backed justice seems unquenchable. The Sierra Leone court has completed all trials, except that against Mr Taylor, though the prosecution wrapped up its case earlier this year. The Rwandan court has left cases against supporters of the current Tutsi-led government of Paul Kagame until last and these will prove hard. The Yugoslav tribunal grinds on, although it is down to its last few cases; it awaits the surrender of two prominent Serb suspects, including Ratko Mladic, ex-commander of the Bosnian Serbs. And unless Kenya makes progress soon in setting up a court to try those responsible for the horrific post-election violence in 2007, Kofi Annan, a former UN secretary-general who helped mediate an end to the violence, will hand a list of names to the ICC for prosecution. Meanwhile, the indictment of Mr Bashir has raised the ICC’s profile—and the stakes for international justice as a whole.

Monitor

Shifting gears

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Pratt and Whitney



Aviation: "Green" jet engines, able to power aircraft while producing fewer emissions, are under development. Which design will prevail?

THAT jet engines have evolved over the past few decades will be apparent to any seasoned air traveller. Early jet engines had narrow inlets and were very noisy, but as the diameter of the fans at the front increased, the engines became quieter. Compared with a rowdy 1960s jet, a modern turbofan is some 80% quieter and burns as little as half as much fuel—thus producing fewer greenhouse gases. But with regulation of aviation emissions likely in the coming years in order to combat climate change, jet engines must become cleaner and more frugal still.

When a jet engine is running, a fan at the front draws in air, which is then compressed and burned with fuel to produce hot, rapidly expanding gases which roar out of the back. On the way out, these gases drive a turbine which is connected to the fan via a shaft, thus drawing in more air and keeping the process going. But not all the air passing through an engine needs to go through the turbine. Over the years the fans have grown larger and the fraction of the air that passes through the turbine has fallen. The latest "high bypass" turbofans, such as the Rolls-Royce Trent, push around nine times more air around the core of the engine than through it. Such high-bypass engines rely on a bigger but slower-moving volume of air to provide thrust. Their turbines can be smaller, since not all the air is passing through them, and this in turn means they are quieter and use less fuel.

But the aviation industry has set itself a tough target: a 50% reduction in fuel consumption by 2020, to cut CO_2 emissions in half. Building more aerodynamic aircraft and operating them more efficiently (by reducing air-traffic-control delays, for instance) could produce about two-thirds of those savings. But the rest will have to come from better engines. Research in areas such as new materials and improved blade design will provide incremental improvements to high-bypass turbofans. But it is unclear whether these will be enough to achieve the required fuel savings. A completely new type of engine may be needed.

The solution devised by Pratt & Whitney (P&W), a division of United Technologies, is a "geared turbofan" engine called the PurePower PW1000G. Unlike a conventional turbofan, it uses a gearbox rather than a shaft between the fan and the turbine. Turbines run most efficiently at high speeds, and fans at low

speeds, so turbofan engines have to compromise between the two, because the engine's design requires them to turn at the same speed. A gearbox, however, allows the turbine to operate at a high speed while driving the fan at a lower speed. In February P&W said that in tests, this design had proved capable of "double digit" improvements in fuel efficiency and emissions, and a 50% reduction in noise.

Some airlines, however, are wary of gearboxes. They worry that replacing a simple shaft with a complex gearbox will increase maintenance costs and make it more likely that something will go wrong. P&W disagrees. Bolted under the wing of an Airbus A340 as part of its test programme, the PW1000G endured more than 75 hours of operation, including many extreme manoeuvres, and proved its durability, says Bob Saia, who is in charge of engine development at P&W. Moreover, he adds, the gearbox is made from the same kind of steel that is already used in the small gearboxes that take power from turbofans for aircraft systems.

P&W will now use the data gathered from its test flights to finalise the engine's design. The PW1000G is due to enter service in 2013 powering two new short-haul aircraft being built by Mitsubishi and Bombardier. It could also be scaled up for use on bigger aircraft. Some in the industry think geared turbofans could eventually reduce fuel consumption by 20-25%.

There is another way to build a greener jet engine: by bypassing the turbine to an even greater extent, with an open rotor. This is a bit like going back to propellers. A number of designs use two rings of stubby, counter-rotating blades made from composite materials. Unlike the blades on old-fashioned propeller engines, these blades spin around at the back of the engine. Rolls-Royce and General Electric (GE) are studying this approach, though they are also keeping their options open by working on improvements to conventional turbofans, too. GE carried out test flights with an open-rotor engine in the 1980s, and reckoned it would use 30% less fuel than similar-sized engines of the time. But the engine was noisy, and there were concerns about what would happen if one of the blades broke off and tore into the aircraft's fuselage.

All this is difficult for aircraft-makers, who are used to being able to hang competing engines off the same wing. Airlines can then choose which airframe to buy, and which engines, and there is competition in both fields. But the geared turbofan and the open rotor are so different from each other that they will need different airframes. For safety reasons, open-rotor engines might have to be mounted at the back, for example. At the moment Boeing is concentrating on its new 787, a medium-sized, wide-bodied aircraft, and its rival Airbus is delivering the first examples of its new A380 super-jumbo. But before long the two companies will turn their attention to designing replacements for the smaller 737 and A320, the most numerous aircraft in the sky. At that point, they will have to decide which, if either, of these new engines they want to adopt.

Recharged

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Energy: There is life in a 150-year-old battery technology yet, it seems, as venerable lead-acid batteries are given a modern overhaul

MCC



The Tesla of its day ran on lead-acid batteries

LEAD-ACID batteries seem to have been around for ever. They were invented in 1859 by Gaston Planté, a French physicist, and have done sterling work over the decades starting car engines and powering slow-moving vehicles such as fork-lift trucks and milk floats. Compared with the newer energy technologies that are now sweeping the world, however, they look old-fashioned and a bit frumpy. These days the catwalk is crowded with nickel-metal hydride and lithium-ion batteries, showing off their ability to pack lots of energy into a small space and deliver a steady current over a long period. The fact that these modern batteries are also lighter (lead is, after all, one of the densest elements in the periodic table) has made them the obvious choices for powering truly serious electric vehicles, as opposed to the ones that potter about in warehouses and on suburban streets.

But it is a mistake to dismiss something just because it is old. Another way of looking at things is that lead-acid batteries are tried and trusted; they may just need a bit of pepping up. Axion Power, a firm based near Pittsburgh, Pennsylvania, has found that the ideal tonic is carbon.

A conventional lead-acid battery is made up of a series of cells, each of which contains a positive electrode made of lead dioxide and a negative electrode of metallic lead. These are immersed in an electrolyte of dilute sulphuric acid. Car batteries tend to have thin electrode plates, which allows a lot of energy to be discharged quickly, but only for a short period of time. That is fine for turning a starter motor, but it is not so good for powering an electric motor intended to move a car any distance. Moreover, lead-acid batteries can be ruined if they are discharged completely, as many motorists have discovered to their cost when trying to start their cars on icy mornings. Lead-acid batteries with thicker electrodes can tolerate such "deep" discharges better than those with thin ones, but only at the expense of making a heavy battery even heavier.

In Axion's new battery the negative electrode is replaced with one made from activated carbon, a material used in supercapacitors. Normal capacitors—those that power the flashguns in cameras for instance—can be charged and discharged rapidly, but cannot store much energy. Supercapacitors are meatier versions that are able to hold a reasonable amount of energy, and can take it in and release it quickly. Some, indeed, are already used in tandem with the lithium-ion batteries in electric cars to boost acceleration and recapture energy during so-called "regenerative" braking. Axion's plan, therefore, is to have the best of both worlds by building a hybrid battery that is based on lead-acid/carbon (PbC) chemistry.

The carbon, which is protected within a sandwich of other materials, is more effective than metallic lead at exchanging protons with the acid during charging and discharging. In tests, Axion says, its PbCs withstood more than 1,600 charges and deep discharges before failure, which is three times better than standard lead-acid batteries that are specifically designed for such deep cycles.

True, the new batteries are still heavy compared with lithium-ion ones. “But not everyone needs or can afford an electric car that accelerates like a Tesla,” says Ed Buiel, Axion’s chief technical officer, referring to the fastest electric car yet to be put into production, which uses a huge number of lithium-ion cells. And for those who do not require Tesla-like performance, this makes sense. PbC batteries are durable and cheap to make because, according to Dr Buiel, they can be produced on existing lead-acid production lines. A Tesla costs $109,000. Axion, by contrast, has converted a pickup truck to run on a pack of its batteries for around $8,000. (It has a range of 70km, or about 45 miles.) The company is also working with a number of other small engineering firms to convert other sorts of vehicles.

Nor is transport the only application. In another project, called Power Cube, Axion is putting banks of its batteries into a shipping container, which can then be used as a mobile energy-storage system that can supply up to 1MW of power for 30 minutes, or 100KW for ten hours. Power Cubes could help deliver power to local electricity grids that might otherwise suffer “brownouts” as a consequence of demand temporarily exceeding supply. They might also provide an answer to the problem of matching the supply of solar and wind energy to the demand for electricity, by storing electricity during the day, or during particularly windy periods, so that it is available at night, or during calm periods when the wind drops.

Other companies are also looking at ways to give the lead-acid battery a new lease of life. Furukawa Battery, a Japanese firm, has developed the UltraBattery. This, too, combines the benefits of a lead-acid battery with those of a supercapacitor, but in a different way: it splits the negative electrode in two, with one part made of lead and the other of carbon. In September 2008 East Penn Manufacturing, a big American battery-maker, struck an agreement with Furukawa to put the UltraBattery into production.

Meanwhile, America’s marines are testing a special version of Axion’s battery in some of their assault vehicles. If they can satisfy such demanding users, lead-acid batteries with a dash of carbon could be ready to lead a new charge.

Fuelled by coffee

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Biofuels: A novel form of biodiesel is derived from an unusual feedstock that is more commonly used to fuel mental activities: coffee

Illustration by Pelle Mellor



RUNNING a diesel engine on a plant-based fuel is hardly a new idea. One of the early demonstrations carried out by Rudolph Diesel, the German engineer who invented the engines at the end of the 19th century, operated on pure peanut oil. Diesel fuel made from crude oil eventually won the day because it was easier to use and cheaper to produce. But new forms of biodiesel are now starting to change the picture again. One of them is derived from the remains of a drink enjoyed the world over: coffee.

Biodiesels are becoming increasingly popular. In America, Minnesota has decreed that all diesel sold in the state must contain 2% biodiesel (much of it from the crops grown by the state's soya farmers). Biodiesel can also be found blended into the fuel used by public and commercial vehicles and by trains in a number of countries. Aircraft-engine makers are testing biofuel blends. As with other biofuels, the idea is that making fuel from plants, which absorb carbon dioxide as they grow, will produce fewer emissions than burning fossil fuels.

In the case of coffee, the biodiesel is made from the leftover grounds, which would otherwise be thrown away or used as compost. Narasimharao Kondamudi, Susanta Mohapatra and Manoranjan Misra of the University of Nevada at Reno have found that coffee grounds can yield 10-15% of biodiesel by weight relatively easily. And when burned in an engine the fuel does not have an offensive smell—just a whiff of coffee. (Some biodiesels made from used cooking-oil produce exhaust that smells like a fast-food joint.) And after the diesel has been extracted, the coffee grounds can still be used for compost.

The researchers' work began two years ago when Dr Misra, a heavy coffee drinker, left a cup unfinished and noticed the next day that the coffee was covered by a film of oil. Since he was investigating biofuels, he enlisted his colleagues to look at coffee's potential. The nearby Starbucks was happy to oblige by supplying grounds. The researchers found that coffee biodiesel is comparable to the best biodiesels on the market. But unlike biodiesels based on soya or other plants, it does not divert crops or land from food production into fuel production.

A further advantage is that unmodified oils from plants, like the peanut oil used by Diesel in the 19th century, have high viscosity and require engine alterations. Diesel derived from coffee is less thick and

can usually be burned in an engine with little or no tinkering.

The diesel-extraction method for coffee grounds is similar to that used for other vegetable oils. It employs a process called transesterification, in which the grounds react with an alcohol in the presence of a catalyst. The coffee grounds are dried overnight and common chemical solvents, such as hexane, ether and dichloromethane, are added to dissolve the oils. The grounds are then filtered out and the solvents separated (to be reused with the next batch of coffee grounds). The remaining oil is treated with an alkali to remove free fatty acids (which form a soap). Then the crude biodiesel is heated to about 100ºC to remove any water, and treated with methanol and a catalyst, so that transesterification takes place. When cooled to room temperature and left to stand, the biodiesel floats up, leaving a layer of glycerine at the bottom. These layers are separated and the biodiesel is cleaned to remove any residues.

Although some people make their own diesel at home from leftovers and recycled cooking oil, coffee-based biodiesel seems better suited to larger-scale processes. Dr Misra says that a litre of biodiesel requires 5-7kg of coffee grounds, depending on the oil content of the coffee in question. In their laboratory his team has set up a one-gallon-a-day production facility, which uses between 19kg and 26kg of coffee grounds. The biofuel should cost about $1 per gallon to make in a medium-sized installation, the researchers estimate.

Commercial production could be carried out by a company that collected coffee grounds from big coffee-chains and cafeterias. There is plenty available: according to a report by the United States Department of Agriculture, more than 7m tonnes of coffee are consumed every year, which the researchers estimate could produce some 340m gallons of biodiesel. Time, perhaps, to pour another cup before refilling the car.

Party time!

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From The Economist print edition

Energy: It may sound silly, but metallised balloons could provide an unusually cheap and effective way to generate solar electricity

Illustration by Pelle Mellor



SOLAR cells are expensive, so it makes sense to use them efficiently. One way to do so is to concentrate sunlight onto them. That means a smaller area of cell can be used to convert a given amount of light into electricity. This, though, imposes another cost—that of the mirrors needed to do the concentrating. Traditionally these are large pieces of polished metal, steered by electric motors to keep the sun's rays focused on the cell. But now Cool Earth Solar of Livermore, California, has come up with what it hopes will be a better, cheaper alternative: balloons.

Anyone who has children will be familiar with aluminised party balloons. Such balloons are made from metal-coated plastic. Cool Earth's insight was that if you coat only one half of a balloon, leaving the other transparent, the inner surface of the coated half will act as a concave mirror. Put a solar cell at the focus of that mirror and you have an inexpensive solar-energy collector.

Cool Earth's balloons are rather larger than traditional party balloons, having a diameter of about 2½ metres (eight feet), but otherwise they look quite similar. The solar cell aside, they are ridiculously cheap: the kilogram of plastic from which each balloon is made costs about $2. The cell, the cost of which is a more closely guarded secret, is 15-20cm across and is water-cooled. That is necessary because the balloon concentrates sunlight up to 400 times, and without this cooling the cell would quickly burn out.

Like a conventional mirror, a solar balloon of this sort must be turned to face the sun as it moves through the sky, and Cool Earth is testing various ways of doing this. The focus of the light on the solar cell can also be fine-tuned by changing the air pressure within the balloon, and thus the curvature of the mirror.

The result, according to Rob Lamkin, Cool Earth's boss, is a device that costs $1 per watt of generating capacity to install. That is about the same as a large coal-fired power station. Of course, balloons do not last as long as conventional power stations (each is estimated to have a working life of about a year). But the fuel (sunlight) is free. When all the sums are done, Mr Lamkin reckons his company will be able to sell electricity to California's grid for 11 cents a kilowatt-hour, the state's target price for renewable energy, while still turning a tidy profit.

That belief will soon be put to the test. Cool Earth plans to open a 1-megawatt facility this summer. If it works, more will follow and—in the deserts of California and elsewhere—it will be party time for solar-energy enthusiasts.



Monitor

Bone in a bottle

Mar 5th 2009
From The Economist print edition

Tissue engineering: Attempts to grow artificial bone marrow in the laboratory have failed—but now a new approach is showing promise

GROWING human cells in a laboratory is easy. Making those cells arrange themselves into something that resembles human flesh is, alas, rather more difficult. So-called tissue engineers have mastered the arts of making artificial skin and bladders, and they recently managed to cook up a windpipe for a patient whose existing one was blocked. But more complicated organs elude them. Nor has anyone managed to grow bone marrow.

At first sight, that is surprising. The soft and squishy marrow inside bones does not look like a highly structured tissue, but apparently it is. This does not matter for transplants: if marrow cells are moved from one bone to another they quickly make themselves at home. But it matters for research. Bone marrow plays an important role in the immune system and in bodily rejuvenation. Stem cells that originate within the marrow generate various sorts of infection-fighting blood cells and help repair damaged organs. But many anticancer and antiviral drugs are toxic to marrow. That leaves patients taking them susceptible to disease and premature ageing. Experiments intended to investigate this toxicity using mice have proved unsatisfactory. Nicholas Kotov of the University of Michigan in Ann Arbor and his colleagues have therefore been trying to grow human marrow artificially.

When they started their research, Dr Kotov and his team knew that the stem cells from which marrow is derived grow naturally in specialised pores within bone. These pores are lined by a mixture of connective-tissue cells, bone cells and fat cells, which collaborate to nurture the stem cells. The researchers also knew that the cells in this lining send chemical signals to one another and to the stem cells they touch. This suggests that a stem cell's fate may depend on its surroundings in three dimensions, rather than the two dimensions of the bottom of a Petri dish—the type of vessel in which cell cultures are traditionally grown. If correct, this would explain why attempts to grow marrow in Petri dishes have failed.

To test their idea, Dr Kotov and his colleagues tried to replicate the interior of a bone using a material, called a hydromel, that is similar in composition to a soft contact lens. To make the erzatz bone, liquid hydromel is densely seeded with tiny polystyrene spheres with diameters of 50-300 microns (millionths of a metre). When the hydromel has solidified, the spheres are dissolved using a solvent called tetrahydrofurane, leaving a porous matrix. The diameters of the pores in this matrix match those of natural bone.

For added verisimilitude, the team coated the internal surfaces of the pores with a material similar to mother of pearl. Marrow cells do not like to attach themselves to squishy materials like hydromels, but the team's new material has enough stiffness to pass for bone, and fooled the cells into setting up home.

Once the matrix was complete, the researchers seeded the pores with marrow harvested from donors. They recently reported in the journal *Biomaterials* that the transplanted cells behaved as if they were in real bone-marrow tissue, growing and dividing as they would normally. To test their artificial marrow further, they added influenza viruses, and found that it released antibodies to fight the viruses, just as natural marrow would.

The anticancer and antiviral drugs that damage natural marrow have not been studied in the artificial version yet, but that should happen soon. Dr Kotov's new tool should also let researchers study marrow's response to pathogens such as influenza in more detail than is now possible. It is an unusual application of tissue engineering, but a valuable one.

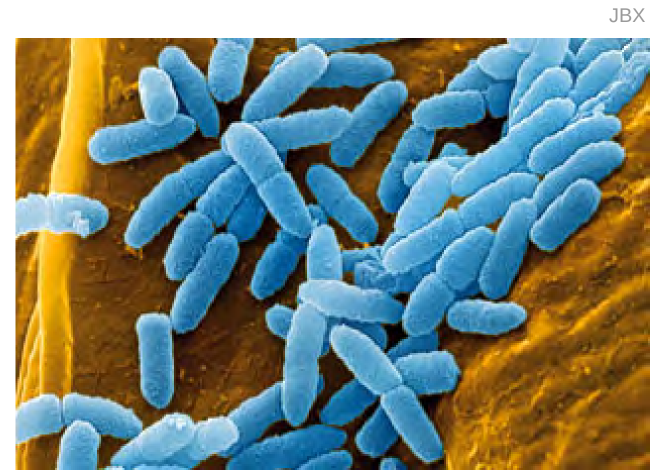
A mousetrap for bacteria

Mar 5th 2009
From The Economist print edition

Antisepsis: Miniature traps that catch bacteria might provide a way to tackle the problem of patients becoming infected while in hospital

ANTISEPTICS have saved countless lives, but they are most effective when the bacteria they are attacking are individual cells in suspension. Once bacteria have attached themselves to solid surfaces and formed films, they are far harder to eradicate with standard disinfectants. Bacterial contamination of medical devices is a particular problem, as those devices are then used on people whose immune systems may be in less than tip-top condition. Surgical instruments can be heat-sterilised or treated with ultraviolet light, but that is not appropriate for everything. The result is that infections arising from bacteria attached to surfaces in clinics and hospitals are reckoned to cause up to 1.4m deaths per year.

JBX



Can anyone smell cheese?

In an attempt to develop a better method of disinfection, a team led by David Whitten of the University of New Mexico and Kirk Schanze of the University of Florida set out to design the equivalent of a mousetrap for bacteria. The device they have come up with is a hollow capsule five microns (millionths of a metre) across. It is made of alternating layers of two electrically conducting polymers, one positively charged and one negatively charged, that have an unusual property: when they are exposed to light they turn nearby oxygen molecules into "singlet oxygen", a particularly reactive form of the element that is highly toxic to any bacteria inside the capsule.

To test this idea, the researchers ran a series of experiments in which they exposed their newly built microcapsules to *Pseudomonas aeruginosa*, a lethal bacterium commonly found in hospitals, and also to *Cobetia marina*, a bacterium that frequently adheres to ships and marine equipment, causing fouling. They found that in both cases the microcapsules attracted and captured nearby bacteria. After one hour of exposure to light, they reported in a recent issue of *Applied Materials & Interfaces*, the capsules killed more than 95% of the bacteria used in the study.

What is killing the bacteria is clear: it is the singlet oxygen. What is luring them into the microcapsules, though, is not well understood. Dr Whitten and Dr Schanze have, however, observed that the capsules extrude thin, flimsy fibrils of the two polymers. These fibrils seem to attract bacteria and then guide them into the killing chamber. The researchers speculate that the positive electric charge on one of the polymers may be the bait, since many bacteria are negatively charged and would thus be attracted electrostatically to the polymer in question. Alternatively, because both bacteria and polymers are repelled by water they may be pushed together by this joint repulsion.

However it works, the upshot is what Dr Whitten describes as a micro-sized “roach motel” (“Bacteria check in, but they don’t check out”). He suggests that a thin coating of the capsules could be applied to surfaces. If the idea can be scaled up, it may prove a useful weapon in the fights against hospital-caused infection and marine-fouling alike.

Bouncing ideas around

Mar 5th 2009
From The Economist print edition

Computing: A chip that can store light, if only for a microsecond, could be an important step towards lightning-fast optical computers

LIGHT is the fastest thing in the universe. That makes it ideal for conveying information over long distances. Indeed, much of the information flowing across the internet travels in the form of light pulsing through optical fibres. When that light reaches the end of the fibre, however, things slow down. The data have to be converted into electrical signals for processing and then converted back into light if they need to be sent on their way again. That increases costs and complexity. If a way to eliminate the need for this conversion could be found it would both simplify things and speed them up. It would also help lay the foundations for new forms of computing, such as those that employ quantum bits, or qubits.

The main reason that all-optical networks and light-driven computers have not yet been built is that the speed of light is non-negotiable. An electron can be speeded up, slowed down or even stopped. A photon cannot—at least, nowhere near so easily. To create a memory, however, things have to stay put. Hence the need to transfer data from photons to electrons to build such memories.

A study published recently in *Nature* by Nicolas Gisin of the University of Geneva and his colleagues may, though, offer a way out. Dr Gisin and his team have built a computer chip that can hold on to photons for a microsecond. This may not sound long, but a photon would usually travel 300 metres in that time. More importantly, it is long enough to allow some useful computing to be done.

What Dr Gisin has created is, in essence, an optical echo-chamber. It does not actually slow light down, but it keeps it bouncing around in a confined space, which is just as good. The "hollow" part of the chamber is in fact stuffed with atoms of a metal called neodymium (about 10m of them). These are embedded in a crystal made of two other unusual metals, yttrium and vanadium, compounded together with oxygen to create a substance called yttrium vanadate. When light from a standard semiconductor laser is injected into the chamber it bounces off the walls (ie, the boundary between the neodymium and the yttrium vanadate). Crucially, this bouncing does not damage a phenomenon called quantum entanglement—the spooky way in which two photons some distance apart share states, such as their planes of polarisation, in a way that if one changes, the other does too.

Entanglement means that groups of photons can be made to do large numbers of calculations in parallel. So-called quantum computers based on this phenomenon would massively outperform today's machines. Entanglement also offers the promise of unbreakable cryptography, since an eavesdropper intercepting a message carried by entangled photons would have to break the entanglement to read it, thus giving himself away.

Better still, Dr Gisin has managed not only to perform this trick in a solid, but to do so at the heady temperature of three degrees above absolute zero (3K). Previous optical traps, as these devices are known, have used gases, and have had to be cooled to within a few thousandths of a degree of absolute zero. By comparison with that, getting to 3K is a doddle.

Monitor

Twinkle, twinkle, little laser

Mar 5th 2009
From The Economist print edition

Precision agriculture: Using lasers to determine the level of moisture in a field could help farmers decide when to irrigate—and when not to

HOW much, and how often, should farmers water their crops? The invention of the automatic sprinkler gave farmers the power to act upon the answers to those questions. It did not, though, provide the answers themselves. Most farmers still make the call based on instinct, or err on the side of caution and switch the sprinklers on at fixed intervals.



Scintillating stuff

Unfortunately, both these approaches risk wasting water, and in many parts of the world it is a scarce resource. California, for example, has suffered a drought for the past two years and experienced the driest spring in recorded history. Water bills have risen, but even that has not curbed demand sufficiently. Many parts of the state have therefore limited the use of water, to the detriment of crops and lawns.

Jan Kleissl and his colleagues at the University of California, San Diego, think they may be able to help. Dr Kleissl's idea is to use lasers to detect the amount of moisture in the air above the crops, and to use this information to decide when they need to be watered. His system (pictured), known grandiosely as a "large-aperture scintillometer", consists of a laser on one side of a field, a telescope on the other, and a lot of computer power to work out how much the laser beam twinkles as it passes across the field.

Stars twinkle because air currents driven by the evaporation of water cause their light to shimmer as it passes through the Earth's atmosphere. (To avoid this twinkling, large observatories are sited on remote, dry mountaintops in places like Chile.) On a smaller scale, the light from Dr Kleissl's laser also shimmers. The more water evaporating from a field, the more the laser's light appears to twinkle. This, when properly interpreted, can tell the field's owner how damp the soil is and thus whether he needs to switch the sprinkler on, and for how long.

As with many other technologies, this idea had its origins in military research. Twinkling limits the accuracy with which weapons can be aimed. The same approach has been adapted for use in airports, to measure conditions over runways. Dr Kleissl's innovations are to modify the procedure so that it can use off-the-shelf lasers, and to improve the software. The resulting system is expected to cost $25,000-50,000 when it is commercialised. That price obviously puts large-aperture scintillometers out of the reach of the average farmer in, say, India. But for a big farm or golf course in a drought-prone area such as California, or in one of the man-made oases in the Gulf, it might be just the ticket.



Monitor

A good yarn

Mar 5th 2009
From The Economist print edition

Nanotechnology: Cotton fibres coated with carbon nanotubes could be used to make clothing that glows, or detects bleeding

MANY science-fiction stories portray a time when warring generals monitor their forces on computer displays that are linked to special suits worn by their soldiers. Information about any injuries are sent to the command station immediately, so the generals can tell that, say, Sergeant Johnson has a fractured ankle or that Corporal Caley has lost 1.2 litres of blood. Such a day may not be too far off. Researchers have been able to produce cotton fibres capable of detecting blood and of signalling its presence electrically.

Intelligent textiles have a lot of appeal. For both soldiers and doctors, clothing that adapts to changing conditions could provide adjustable levels of protection from such things as microbes, chemicals and radiation. Commercial manufacturers see huge potential in clothes that glow, do not wrinkle or overcome body odour. Materials can already be made to do some of these things, but they are too bulky, rigid or complicated for practical use. So the aim is to manufacture a light material that can be easily woven but is also highly durable and, in order to transmit information, can conduct electricity.

A team of researchers led by Nicholas Kotov, a chemical engineer at the University of Michigan, has come up with a way in which this might be done by coating cotton threads with carbon nanotubes. These tubes are cylindrical carbon molecules with a unique honeycomb-like arrangement of atoms. They are regarded as among the most versatile nanomaterials available because of their mechanical strength and electrical properties.

Nanotube composites are often made into solid structures or sheets, although flexible versions, such as electrically conductive films and electronic inks, can be prepared from dilute nanotube solutions. Some electronic devices, such as field-emission displays in some flat panels, are made from nanotube yarns. But the weaving of these yarns, which may be only one-thousandth of a millimetre thick, is complicated and expensive. Creating garments with electrical properties has not been considered practical.

However, Dr Kotov and his colleagues have reported in *Nano Letters* a simple process for coating standard cotton threads with carbon nanotubes. Being much thicker than nanotube yarns, such threads can be woven more easily. The researchers dispersed carbon nanotubes in a dilute solution of a mixture of Nafion, a commercial synthetic polymer, and ethanol. They then repeatedly dipped cotton threads, 1.5mm in diameter, into the solution, letting them dry between each dip. This allowed the nanotubes to cover individual cotton strands and to adhere strongly to the surface of the cellulose fibres in the strands. The process also encouraged the nanotubes to arrange themselves along the axis of the cotton fibres, which increased electrical connectivity. After several dips, Dr Kotov found that the cotton threads were conductive enough that they could be used to wire up a light-emitting diode.

In a further test the researchers added molecules of a material that reacts with human serum albumin, an essential component of human blood, to the dipping solution. Then they immersed more cotton threads. This time they ran an electrical current through the thread while exposing it to different concentrations of albumin. They found that the threads' electrical conductivity varied according to the level of albumin. The researchers propose that such material could be used to detect bleeding if suitably woven into military clothing—just as the science-fiction writers predicted.

Revolutionary buildings

Mar 5th 2009
From The Economist print edition

Engineering: Clever construction techniques could usher in a new architectural era in which entire buildings are capable of rotating

Alpha



IN BIOLOGY almost nothing revolves freely. An owl's head, for example, can twist so far round that it faces backward, but when the bird wants to look forward again, it must turn its head back the way it came. There is a reason for this. Animals are wired up internally by blood vessels, nerves, intestines and so. Evolution has not yet come up with a way of keeping these links intact while allowing different parts of the body to revolve independently of one another. And this is not just a biological problem. Even human engineers have difficulty with it, which is one reason why revolving buildings—with their need for water, sewerage, gas and electrical connections—are so rare. But that could now be changing.

The simplest approach to such a building is what might be called the owl solution—in other words, incomplete rotation. This allows fixed but flexible connections to be used. Some years ago Bill Butler, an amateur architect, used this trick in a house in Snow Creek, California. Water and gas are delivered, and sewage removed, via vertical steel pipes in the non-rotating base. Rubber hoses connect the uprights to their mates in the mobile part of the building. The house's ability to rotate is thus limited only by the length of the hoses at full stretch. In the case of Mr Butler's dwelling, that allows it to sweep out an arc of 120º.

Two other Californians, Al and Janet Johnstone, however, have gone the whole hog. Their house, designed by 3sixty Technology of Henderson, Nevada (of which Mr Johnstone is a director) and built in the aptly named neighbourhood of Mountain Helix, revolves completely, once an hour.

Rather than using rubber hoses to connect the stationary and moving parts of the building, 3sixty's ingenious plumbing system employs horizontal ring-shaped pipes made of steel. Or, rather, it employs two ring-shaped half-pipes that rotate with respect to one another (the lower one remaining fixed while the upper one revolves along with the building). The joints between the half-pipes have rubber seals to stop the contents leaking, and each half-pipe has a vertical pipe connected to it, to introduce or dispose of the fluid concerned. Electricity, meanwhile, is delivered via a conductive brush that sweeps around a metal ring in the stationary base.

Electricity, of course, is needed to turn a revolving building. But if the building is well pivoted to reduce friction, that requires surprisingly little power. The motor that moves Mr Butler's house consumes about 370 watts; the Johnstones'—which is solar-powered—a bit over a kilowatt.

A couple of bespoke houses does not amount to a trend. But larger commercial developments are under construction, too. In April, for example, the world's first owners of revolving flats will begin moving into

the Suite Vollard in Curitiba, Brazil, built by Moro Construções Civis. Each of the 11 apartments occupies an entire circular floor, costs about $550,000 and revolves at the occupant’s command, in either direction, once an hour. (Moro has sidestepped the plumbing problem: the kitchens and bathrooms are located in the building’s stationary central core.) Rogério Kffuri, Moro’s head of sales, says the firm has signed contracts with developers in America, Canada, Japan, Portugal and the United Arab Emirates (UAE).

The UAE, in particular, seems keen on this sort of novelty. Dubai Property Ring, a local developer, plans to build a 30-storey block of flats called 55° Time Dubai. Instead of revolving platforms or individual floors, the entire structure will turn once a week, a pace that Tav Singh, the project’s manager, calls “dignified”. The owl problem, meanwhile, will be solved using a system similar to 3sixty’s.

The most ambitious proposal yet comes from David Fisher, an architect based in Italy. He wants to build a skyscraper called the Dynamic Tower in Dubai. It would have 80 independently rotating, non-circular floors. This would give the tower a continuously changing shape. Solar panels and horizontal wind turbines between the floors would generate the power needed to turn it.

Mr Fisher has provided few details. But Antony Wood, head of the Council on Tall Buildings and Urban Habitat, an industry association based in Chicago, says technological limitations no longer rule out such towers. If the Dynamic Tower is not built, Mr Wood says, the explanation will not be an unavoidable lack of know-how, but an old-fashioned lack of money.

Fair comment

Mar 5th 2009
From The Economist print edition

The internet: Books and other products sold by online retailers can attract thousands of reviews. Why are they worth reading—or writing?


Illustration by Pelle Mellor

IF A book on Amazon.com, the leading online retailer, already has hundreds of reviews, is it worth bothering to add another? Evidently some people think it is. Peter Hoflich, a financial journalist based in Singapore, recently wrote the 3,250th review of "Harry Potter and the Deathly Hallows", for example. "I wonder if anyone will benefit from my review, especially since there are so many," he muses. Oddly enough, somebody might. That is because the raw number of reviews or comments, and the proportion of positive and negative ones, send useful signals to other people, even if they do not trawl through all of them. Accordingly, websites make it as easy as possible for people to add their comments.

Amazon was a pioneer in this regard: it has allowed customers to post reviews of books and other products for many years. Initially, publishers and authors were worried that allowing negative reviews would hurt sales. Online retailers have generally been reluctant to allow users to leave comments, says John McAteer, Google's retail industry director, who runs shopping.google.com, the internet giant's comparison-shopping site. But a handful of bad reviews, it seems, are worth having. "No one trusts all positive reviews," he says. So a small proportion of negative comments—"just enough to acknowledge that the product couldn't be perfect"—can actually make an item more attractive to prospective buyers.

The sheer volume of reviews makes far more difference, according to Google's analysis of clicks and sales referrals. "Single digits didn't seem to move the needle at all," says Mr McAteer. "It wasn't enough to get people comfortable with making that purchase decision." But after about 20 reviews of a product are posted, "We start to see more reviews—it starts to accelerate," says Sam Decker, the chief marketing officer of Bazaarvoice, a firm that powers review systems for online retailers.

His company's research shows that visitors are more reluctant to buy until a product attracts a reasonable number of reviews and picks up momentum. In a test with Kingston, a maker of computer memory, Bazaarvoice collected reviews of Kingston products from the firm's website and syndicated them to the website of Office Depot, a retailer. As a result there were more than ten reviews per product, compared with one or two for competitors' offerings. The result was a "drastically" higher conversion rate, which extended even to other Kingston products that lacked the additional reviews.

Yet even when a product has attracted hundreds or even thousands of reviews, they keep coming in. Five reviews of the first book in the popular "Twilight" series, which was published in October 2005, were posted on Amazon.com on a typical day recently. Most retailers and comparison sites try to strike a balance between recent reviews and helpful ones. Allowing visitors to rate reviews allows the most informative to rise to the top. And displaying recent reviews indicates that people are still interested in the product.

"Most people only look at the most recent—they don't go back and look at the first review," says Mr McAteer. Clay Shirky, a consultant on social media, points out that reverse-chronological sorting, which is how blog posts, comments and reviews are generally displayed on the web, "gives people a latent expectation that recency matters." People like to read recent reviews, but why does anyone post new

ones? Mr Shirky suggests that in many cases, writing a review is more like writing fan mail (or hate mail) for a product, and the people who post them do not really expect it to be read.

But Daphne Durham, books editor at Amazon, says some reviewers really do want to shape others' opinions. "Someone out there is reading Harry Potter for the first time," she says. This prompts other readers who feel strongly about it "to debunk the hype, or to validate it." On Amazon, indeed, the most prolific reviewers are promoted almost as celebrities in their own right. This prompts reviewers to focus on quantity, not quality, however, so Amazon recently changed its ranking system. Now the "helpfulness" of reviews is taken into account, causing Harriet Klausner, the most prolific reviewer with over 18,000 reviews to her credit, to drop below 500th place in the rankings. Readers rated her reviews as helpful 71% of the time, compared with 95% for the new number-one reviewer, "Mark", who has written fewer than 500 reviews.

What is true for reviews does not appear to apply to comments left on news stories or blogs, however. "You can probably have a decent discussion until you get to about 350 comments," says Markos Moulitsas, the founder of Daily Kos, a popular left-leaning political site. But after that, he says, "most outside people will stay away from the thread, and further growth will come from people already inside that thread carrying forth a discussion, debate, or argument." Such discussion threads are more of a conversation, and the page they inhabit usually has a limited lifespan during which people continue to post—unlike the Amazon pages for the "Harry Potter" books, which continue to attract reviews even today, years after the books' publication.

Bright sparks

Mar 5th 2009
From The Economist print edition

Innovation Awards: We invite nominations for our annual prizes recognising innovators

THE ECONOMIST'S eighth annual Innovation Summit will take place in London on October 30th. Speakers from industry and academia will examine the latest trends in the management of innovation, from laboratory to marketplace. At an awards ceremony on October 29th, we will honour successful innovators in a range of fields.

Accordingly, readers are invited to nominate outstanding innovators in seven categories: bioscience; energy and the environment; computing and telecoms; "no boundaries" (which includes materials science, nanotechnology and other emerging fields); consumer products and services; business processes; and social and economic innovation, a category that recognises individuals who have pioneered novel technologies and business models that improve everyday lives.

Nominees should be people, not companies, who are responsible for an innovation that has been a proven success in the past decade. Please e-mail innovation@economist.com, giving the nominee's name, affiliation and contact information, and a 200-word summary explaining why he or she deserves the award in a particular category. Nominations can also be submitted online at economist.com/innovationawards. The deadline is April 9th.

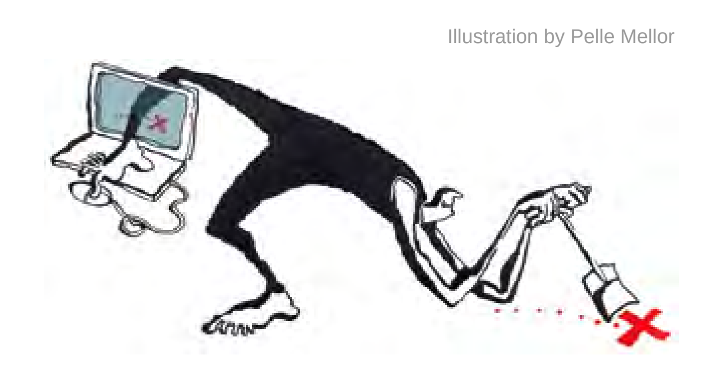
Monitor

Serious fun

Mar 5th 2009
From The Economist print edition

Technology and society: “Alternate reality” games mixing puzzles and plot lines, online and off, are becoming more popular

Illustration by Pelle Mellor



WHAT do you get when you combine technology, advertising and unconventional storytelling? Scores of “Batman” fans roaming the streets of San Diego wearing Joker costumes and carrying smart-phones. One of hundreds of alternate-reality games (ARGs) orchestrated for marketing purposes, this elaborate quest, staged at a comic-book convention in 2007, began with $1 bills that led players to a Joker-themed website. The site, in turn, gave them a time and a set of satellite-positioning co-ordinates. At the time and place specified, players found a plane writing a phone number in the sky. Calling the number sent them on a scavenger hunt with online components.

And this massive cross-media event represented only one part of a game called “The Dark Knight”, put together by 42 Entertainment, an advertising company, to promote the film of the same name. It may sound like a convoluted way to get the word out about a film, but games like these are becoming more widespread, attracting new players and bigger clients.

It was back in 2001 that the first commercial ARG, “The Beast”, a promotional campaign for Steven Spielberg’s film “A.I.: Artificial Intelligence”, began blurring the line between reality and fiction. Instead of formally announcing the start of a game, ARGs merely leave clues for potential players to follow: a subtle image on a poster, perhaps, or a cryptic message on a website. Fans must piece together the narrative—that’s the “alternate reality”—on their own. ARGs are characterised by their reliance on technology and teamwork, and are often shrouded in mystery until they end, weeks or even months later. Only then is the full story (and the product being promoted) revealed.

Having started off as marketing tools for films and video games—as with “The Beast”, or “I Love Bees”, an ARG created to promote “Halo 2”, a video-game, in 2004—ARGs are now entering the mainstream. Consider “The Lost Ring”, commissioned by McDonald’s for the 2008 Olympics. Designed by Jane McGonigal, an ARG pioneer who used to work at 42 Entertainment, the game brought together players across six continents to uncover a story of amnesiac athletes and to recreate a supposedly lost (but actually fictional) ancient Olympic sport. “Most people’s experience of the Olympics is vicarious,” says Ms McGonigal. “I wanted to give people a more social and active way to experience them.” This ARG, linked to a global sporting event, sponsored by a multinational company and run in seven languages, shows how far ARGs have come.

As well as getting bigger, ARGs are becoming more ambitious. With the Institute for the Future, a non-profit research organisation based in California, Ms McGonigal is using the ARG approach to evaluate future scenarios with the help of thousands of players. In 2007’s “World Without Oil”, for example, players worked together to determine what humanity would do in a severe oil crisis. (Many of its conclusions were validated when the oil price spiked in 2008.) Ms McGonigal’s latest project, “Superstruct”, uses blogs, videos and wikis to encourage people to imagine the world in 2019.

Her aim, she says, is to use such games as large-scale brainstorming tools, “to build our ability to respond quickly, and in large-scale collaborative ways, to what might happen in the future.” Ms McGonigal does not consider these projects to be ARGs, strictly speaking, but they fit into the growing trend of using playful cross-media technologies to get people thinking, says Jonathan Waite of ARGNet (argn.com), a website that covers the field. In the past three or four years, he says, the number of ARGs going on at any one time has gone from a handful to around 30.

In September 2008 the British Red Cross launched “Traces of Hope”, the first ARG to be commissioned by a big charity. With over 7,000 active players—ARGs almost always have a tight inner ring of dedicated fans who do the footwork, and a much wider circle of “lurkers” who simply watch the action unfold—this interactive narrative about a Ugandan teenager searching for his mother during a civil war was created to shape “the public’s perception of vulnerable people whose lives are affected by armed conflict,” says Dorothea Arndt of the Red Cross. She says the campaign around the game reached over 30m people, allowing the Red Cross to contact new potential supporters. Will other charities follow? It is possible, Ms Arndt admits, that the campaign’s success was partly because of its novelty, so it may not be repeatable.

And how, exactly, does an elaborate cross-media game help to sell more hamburgers, or encourage more donations? McDonald’s, the Red Cross and other sponsors of ARGs are doing what Ms McGonigal calls “gift marketing”. Instead of merely getting people to talk about a product, with a clever advertisement or a viral video, ARGs give sponsors the chance to “make something amazing, give it away, and then take credit for it,” she says. As awareness of ARGs spreads, more companies are embracing the idea of advertising that is fun, not intrusive. “The Lost Ring”, says Mr Waite, had “such a cool story” that it may well have changed players’ attitudes towards McDonald’s.

What next? Mr Waite says he has been excited by an ARG called “The New Frontiersman”, tied to the release of the “Watchmen” film on March 6th. Ms McGonigal’s lips are sealed when it comes to her forthcoming games. But with new ARGs starting up every week, now is a good time to start playing.

Rational consumer

Just click to park

Mar 5th 2009
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Motoring: As the amount of on-board electronics increases, cars are gradually getting closer to being able to park themselves automatically

THE ability of a Ferrari 612 Scaglietti to accelerate to 60mph in just over four seconds is remarkable—but it is no use at all when you are trying to reverse into a tight parking-space outside a busy shop while popping out to get some milk. What is invaluable, however, is that when the car is put into reverse, the screen in the centre of the dashboard switches from satellite-navigation mode and instead displays the view from a camera at the back of the car. This is overlaid with coloured bars showing where, on its current trajectory, the car will end up. As you back into the space, bleeping noises from proximity detectors indicate how close other vehicles are to the Ferrari's very expensive bodywork.

If you dislike parking and that still sounds like too much hard work, then you could instead buy a slightly less glamorous vehicle, a Skoda Superb, which is available with an option called Park Assist. This allows you to pull up alongside an empty space—a screen in the car will confirm that it is big enough—select reverse, and fold your arms. The steering wheel then spins as the car parks itself. You still have to control the accelerator and brake, but if you exceed 4mph, or touch the steering wheel at any point, the automatic-parking system is instantly switched off.



The appeal of this sort of technology, which made its first appearance in the Toyota Prius (pictured) in 2003, is clear. Parking, especially parallel to the kerb, is something many people find difficult. It can also result in a lot of damage: parking accidents account for more than 20% of car-insurance claims, even though many of the dents and scrapes suffered in car parks are never reported in order to protect no-claims bonuses. So it is hardly surprising that carmakers expect lots of demand for vehicles that can help park themselves, and are starting to offer a variety of parking-assistance systems on new cars.

The Skoda's Park Assist is based on the Park4U technology from Valeo, a French component-maker which supplies the system to carmakers in the Volkswagen group including VW, Audi and Skoda. Valeo recently announced that the system will be offered on two of Ford's new Lincoln models in America. Bosch, a German company, supplies the automatic-parking system found in some Mercedes-Benz cars. Like Park4U, it requires the driver to use the accelerator and brake, but Bosch reckons it enables anyone to park a car in a tight spot as swiftly as an expert driver could.

Parking assistance is likely to become cheaper and more widespread because more vehicles are being equipped with the essential components on which it depends: ultrasonic sensors and electronic steering. Once these are in place, it does not cost much to add a few extra parts, and a layer of control software, to enable a car to park itself. Skoda's Park Assist, for instance, costs an extra £620 ($870) on the base

version of the Superb in Britain, but £345 on the top models which have ultrasonic sensors fitted as standard.

Sensor perspective

Ultrasonic sensors measure distance and, in the most basic parking-assistance systems, simply bleep with increasing anxiety as an obstacle gets closer. Once found only at the front and back of a vehicle, they are now being fitted to the sides and corners, too. Some models use small, radar-based sensors as well. These sensors are useful for more than just parking.

Mercedes-Benz's Distronic Plus system, for instance, contains radar-based sensors as part of its cruise-control system, to keep the car at a preset distance from the vehicle in front, braking automatically if the gap narrows quickly. Sensors on the corners of cars, meanwhile, can detect approaching vehicles in blind spots, as when reversing out of a diagonal parking space. Side-mounted sensors detect and measure parallel-parking spaces for parking-assistance systems. These can usually be activated only if the car is moving below a particular speed (in the Skoda's case, 18mph).

Electronic steering is replacing hydraulic power-steering in many cars. Electronic steering was developed in part to provide a lighter, more compact form of power-steering for small cars and for hybrid vehicles, which require steering assistance when running on batteries alone. Controlling steering using electric motors also helps to reduce fuel consumption and hence carbon-dioxide emissions. (Electric motors require power only when the steering wheel is turned, whereas a hydraulic pump drains power from the engine all the time.) Ford reckons 90% of its cars will have electronic steering within three years. It is easy for parking software to control because it involves switching electric motors on and off, rather than operating mechanical pumps.

Parking systems will inevitably become more elaborate in the coming years. BMW is developing one that will automatically drive a car into and out of a parking space in a garage; the driver merely has to press buttons on a key fob while standing nearby. This is meant to help people park in tight spots where the car can get in, but there is little room to open the doors to allow the occupants out.

The company's test vehicle, a BMW 7 Series, uses a camera mounted behind the windscreen, similar to those used in cars with lane-departure warning systems. A special reflector, placed on the wall of the garage in front of the car, is used to align the steering. The car's ultrasonic sensors check for obstacles, and software starts and stops the engine, controls the brakes and hazard-warning flashers, and folds the wing mirrors in and out. It is only a matter of time before the accelerator is also controlled automatically. Indeed, Bosch is already experimenting with an automatic-parking system that requires no intervention from the driver at all—other than pressing the "park" button, of course.

Wireless charging

Adaptor die

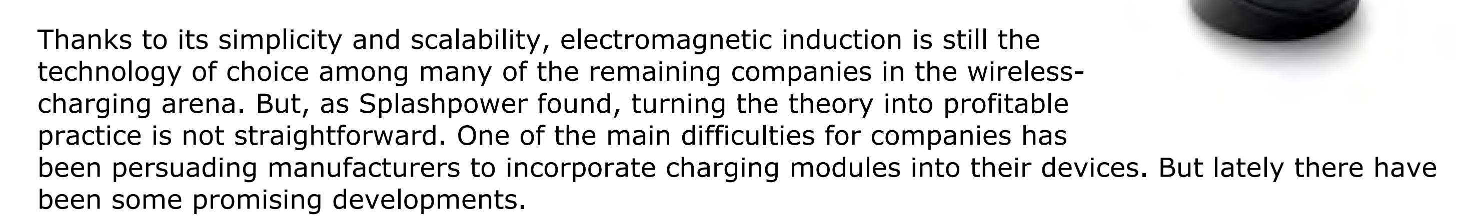
Mar 5th 2009
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Consumer electronics: A new push is under way to let mobile devices off the leash by doing away with their dependence on power cables

Palm.com

IF THE father of electromagnetism, Michael Faraday, could be transported into the 21st century, he would no doubt be awestruck by the iPhone. After five hours of tapping its touch-screen to browse the internet, make calls, play games and determine his location via satellite-positioning, he might also find himself a little puzzled. Why, with all the advances in technology and communications, would such a sophisticated device still need to be plugged in to be recharged? If phone calls and web pages can be beamed through the air to portable devices, then why not electrical power, too? It is a question many consumers and device manufacturers have been asking themselves for some time—and one that both new and established technology companies are now hoping to answer.

To seasoned observers of the electronics industry, the promise of wireless recharging sounds depressingly familiar. In 2004 Splashpower, a British technology firm, was citing "very strong" interest from consumer-electronics firms for its wireless charging pad. Based on the principle of electromagnetic induction that Faraday had discovered in the 19th century, the company's "Splashpad" contained a coil that generated a magnetic field when a current flowed through it. When a mobile device containing a corresponding coil was brought near the pad, the process was reversed as the magnetic field generated a current in the second coil, charging the device's battery without the use of wires. Unfortunately, although Faraday's principles of electromagnetic induction have stood the test of time, Splashpower has not—it was declared bankrupt last year without having launched a single product.



Thanks to its simplicity and scalability, electromagnetic induction is still the technology of choice among many of the remaining companies in the wireless-charging arena. But, as Splashpower found, turning the theory into profitable practice is not straightforward. One of the main difficulties for companies has been persuading manufacturers to incorporate charging modules into their devices. But lately there have been some promising developments.

The first is the formation in December 2008 of the Wireless Power Consortium, a body dedicated to establishing a common standard for inductive wireless charging, and thus promoting its adoption. (It is modelled on a similar body that did the same for Bluetooth, a short-range wireless technology that is now found in most mobile phones.) The new consortium's members include big consumer-electronics firms, such as Philips and Sanyo, as well as Texas Instruments (TI), a chipmaker.

Menno Treffers, chairman of the consortium and director of standardisation at Philips, says universal standards are the single most important requirement for the adoption of wireless charging. Philips is one of the few companies to have commercialised wirelessly charged devices—notably, electric toothbrushes and something it calls an "intimate dual massager". But Mr Treffers acknowledges that a more collaborative approach is needed to ensure that different devices, such as mobile phones, laptops and digital cameras, can share the same charging equipment.



Charging ahead

Fierce competition between manufacturers of mobile devices is also accelerating the introduction of wireless charging. The star of this year's Consumer Electronics Show, an annual jamboree held in Las Vegas, was the Pre, a snazzy smart-phone from Palm (pictured left). As well as the standard arsenal of technical features—touch-screen, Wi-Fi, GPS, Bluetooth and built-in camera—the Pre also has an optional charging pad, called the Touchstone, which uses electromagnetic induction to charge the device wirelessly. When the device is placed on the pad, the two recognise each other through built-in sensors. Magnets embedded in the pad align the handset and hold it in place during charging.

Palm was not the only exhibitor in Las Vegas promoting wireless charging. Fulton Innovation, another member of the Wireless Power Consortium and the eventual owner of Splashpower's assets, used the show to unveil a number of products including an in-car console equipped with inductive coils that can wirelessly charge mobile devices while on the road. (BMW says it will offer its 7 Series cars in South Korea with a wireless-recharging dock for one of Samsung's handsets.) A modified toolbox from Bosch demonstrated the potential for wirelessly charging power tools.

Other domestic applications in the works include embedding charging pads into kitchen counters to enable the wireless use of blenders and other appliances. Bret Lewis of Fulton Innovation says his firm's technology could also be used for industrial applications, or to charge electric cars. For the time being, however, the focus is on mobile phones, laptops and other consumer devices, and he sees 2009 as "the year for wireless". That is probably too ambitious, but a third recent development suggests that the commercialisation of inductive charging may not be far off.

In November 2008 TI announced that it had joined forces with Fulton Innovations "to accelerate development of efficient wireless power solutions". TI, which provides components to many of the world's leading mobile-phone makers said it was exploring the production of integrated circuits that supported the technology developed by Fulton Innovations, with the aim of reducing the cost and size of the components needed for wireless charging and making it easier for device-makers to incorporate them into their products quickly.

"From a semiconductor and power-management point of view, wireless charging is a natural extension of what we have been doing," says Masoud Beheshti, director of battery-charge management at TI. He predicts that, like Bluetooth, wireless charging will initially be offered on high-end devices, before gradually becoming more widely available.

It now seems to be a matter of when, rather than if, wireless charging enters the mainstream.

As wireless-charging equipment based on electromagnetic induction heads towards the market, a number of alternative technologies are also being developed to transmit power over both short and long distances. WildCharge, a start-up based in Colorado, has already started selling a number of wireless-charging devices that take a cheaper but simpler approach in which mobile devices make electrical contact with a special charging pad via four small conductive metal studs (pictured).



Look, no wires

WildCharge and the licensees of its technology have developed replacement back covers for a number of popular devices, including Motorola's RAZR phones and video-game controllers for the Nintendo Wii and the Sony PlayStation 3. No matter how the device is plonked down, two of the bumps establish direct electrical contact with the pad. The firm has also developed special "skins" for Blackberry smart-phones, so that they too can be charged without the need for an adaptor. Although it may not have the "wow" factor of inductive coupling, this approach does away with the necessity for a "handshake" between the device and the pad, and with the need to align the device and the pad in a particular way before charging can begin.

At the other end of the spectrum is the idea of long-range transmission of wireless power, which could in principle do away with the need for a charging pad altogether. This technique uses the energy in radio waves, broadcast from a transmitter and harnessed by an antenna, to generate electricity. Using the passive-power principle found in crystal radios, the method has proved successful over short distances in places where it is difficult to replace batteries or carry out maintenance. The problem is that the intensity of the radio waves needed to charge mobile phones and laptop computers over long distances might be hazardous to human health, and regulators would be unlikely to approve.

Nevertheless a firm called Powercast, based in Pittsburgh, Pennsylvania, has developed wireless-charging products that can do useful things while still operating at safe power levels. Over distances of less than 1.5 metres, its technology can be used to run low-power lighting systems; at a range of up to three metres, the radio waves can provide useful power for trickle-charging rechargeable batteries; and up to about 7.5 metres, they can be used to power wireless sensor networks. The firm talks of providing "milliwatts over metres" and "watts over centimetres".

Yet another approach is that taken by PowerBeam, a start-up based in Silicon Valley. It uses lasers to beam power from one place to another, but it too faces regulatory difficulties. The firm says the low power-density of its lasers and a series of safeguards ensures that human exposure remains within regulatory limits.

With so many companies working towards wireless power, how long will it be before the cord is finally cut? According to Charles Golvin of Forrester, a consultancy, one of the key considerations is getting manufacturers to abandon a lucrative line of business. He says that many mobile-phone manufacturers use the proprietary connectors on their chargers to retain customers, as people are more likely to buy products for which they already have charging adaptors at home, in the office, or in the car. This may make them reluctant to switch to a common wireless-charging standard. But Mr Colvin thinks strong demand will ensure that wireless technology prevails in the long run.

Peaks and troughs

Stephan Ohr of Gartner, a market-research firm, says the prospects for wireless power are realistic, but the path to widespread adoption will not be as easy as many in the industry expect. New technologies tend to go through a period of "inflated expectations" in which they are hyped, but fail to gain traction. Only after passing through the "trough of disillusionment", during which expectations return to a more sensible level, are they widely adopted. For wireless charging, Mr Ohr expects this to take three to five years.

But it now seems to be a matter of when, rather than if, wireless charging enters the mainstream. And if those in the field do find themselves languishing in the trough of disillusionment, they could take some encouragement from Faraday himself. He observed that "nothing is too wonderful to be true if it be consistent with the laws of nature." Not even a wirelessly rechargeable iPhone.

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Carbon capture

Scrubbing the skies

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Environment: Removing carbon dioxide directly from the atmosphere could help combat climate change. Will it really work?

Stonehaven Productions



PREVENTING catastrophic climate change, most people agree, will mean reducing the level of man-made carbon dioxide (CO_2) in the atmosphere. That, in turn, will require the widespread use of "low carbon" technologies such as solar and wind power, more energy-efficient buildings, and so on. Some countries have pledged to reduce their greenhouse-gas emissions by 80% by 2050, and campaigners are calling for cuts of 90% or even 100%. New Zealand, Costa Rica and Norway are racing to become the world's first "carbon neutral" country. But some researchers think there might be a simpler way to reduce the level of CO_2 in the atmosphere: to build "air capture" machines that, as their name suggests, grab it from the air.

This is not as mad as it sounds. After all, such machines already exist: they are used to "scrub" carbon dioxide from the air on board submarines and spacecraft. "It has been around for decades, but the only people who cared were at NASA, because too much CO_2 in a space shuttle means you die," says Matthew Eisaman, a researcher at the Palo Alto Research Centre (PARC) in California. Proponents of air capture propose scaling up such machinery so that it can process the atmosphere directly, extracting the CO_2 so that it can be sold for industrial use or stored underground.

In some respects this is a more ambitious version of the "carbon capture and sequestration" (CCS) technology that is being developed to strip carbon dioxide from the exhaust gases produced by coal- and gas-fired power stations. The exhaust from a coal-fired power station is around 10% carbon dioxide, however, whereas the level in the atmosphere is a mere 0.04%. But scientists working on air capture suggest that this difference is not as significant as it may seem, and that the kinds of industrial methods needed to strip CO_2 from the air have already been proven in industrial processes such as papermaking.

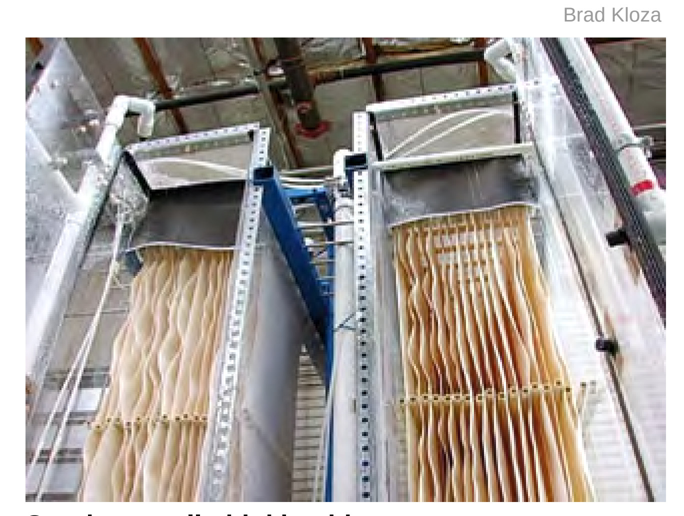
Air capture has the further advantage that it can be done anywhere—not just in places where carbon dioxide is being emitted, such as power stations. An air-capture plant could, for example, be set up at a site where CO_2 can be easily stored, such as an empty oilfield. And air capture would open the way to capturing emissions produced by millions of cars and aircraft.

If air capture is to get anywhere, however, it must overcome three sets of objections: technical, financial and political. The process is no good if it produces more carbon-dioxide emissions than it removes from the atmosphere. Nor is it of any practical value unless the cost of removing each tonne of CO_2 is lower than the alternatives. And whether or not it can be made to work efficiently and cheaply, air capture will be politically controversial because the mere possibility of its deployment could be used as an excuse to put off other action to reduce emissions.

Sucking air

How does air capture actually work? Several designs are being developed, but they involve variations on the same theme. In each case air is brought into contact with a "sorbent" material, which binds chemically with the carbon dioxide. The efficiency of this process depends on the surface area of the sorbent, and an easy way to increase the surface area is to spray a liquid sorbent into the air as a fine mist. At PARC, researchers propose building towers several metres high through which the air would be wafted, coming into contact with a sorbent mist. Having absorbed CO_2 from the air, the liquid would drain into a chamber where the gas would be extracted from the sorbent by a series of chemical reactions, or by applying an electric current, depending on the system's design. The sorbent can then be recycled, and the CO_2 compressed into liquid form for removal. A group at the University of Calgary, led by David Keith, has already demonstrated an air-capture prototype based on a spray tower.

Brad Kloza



Starting small, thinking big

Klaus Lackner, professor of geophysics at Columbia University and a pioneer in the field, has devised another approach that uses a solid sorbent, consisting of thin sheets of material coated with proprietary chemicals. Carbon dioxide is trapped as the air wafts over these sheets, and is then absorbed by liquid chemicals that are washed over the sheets. The CO_2 is extracted from the liquid by applying heat. A cupboard-sized prototype (pictured) has already shown that the concept will work, and Dr Lackner is a member of a company, Global Research Technologies (GRT), that hopes to commercialise the technology. A machine the size of a standard shipping container, he estimates, could capture one tonne of CO_2 a day.

But given that air-capture machines are electrically powered, and generating electricity usually produces carbon-dioxide emissions, do the sums add up? Dr Keith's prototype captured a tonne of CO_2 using 100 kilowatt-hours of electricity. To generate this much power, a coal-fired power station would add around 35kg of carbon dioxide to the atmosphere, or 3.5% of the amount removed by the air-capture machine. Using a cleaner source of power—and anything is cleaner than coal—would make the machine come out even further ahead. Similarly, GRT estimates that when its technology is scaled up, the emissions associated with operating each machine will be less than 5% of the CO_2 captured over its lifetime. So there seems little doubt that air capture would indeed be carbon-negative overall.

But that is no good if the process is prohibitively expensive. One big cost, at least for some designs, is the sorbent material, which cannot be recycled indefinitely. Dr Lackner believes, however, that air-capture technology could have near-term, small-scale commercial uses that will enable it to pay its way as it is perfected and scaled up. He thinks GRT could start off by selling small

At the moment, air capture is merely experimental. A

air-capture devices to produce CO_2 in places that need the stuff, but currently have to pay high prices to have it trucked in. By mass, carbon dioxide is in fact the 19th most important commodity chemical in America, according to the Department of Energy. It can be piped into greenhouses to improve plant yields and is used in food processing, water treatment and fire extinguishers, among other things. Forcing CO_2 into oil fields can also increase the amount of oil recovered. Air capture could, says Dr Lackner, be a viable way to supply carbon dioxide for industrial uses even at a cost of $200 per tonne, the current cost of the technology.

breakthrough could pose some tricky questions.

That is far higher than the cost per tonne of carbon dioxide on emissions-trading markets, where the price of permits that entitle their holders to emit a tonne of carbon dioxide recently fell below $10. Only if the cost of air capture falls below the cost of an emissions permit will it be economically attractive; otherwise emitters will find it cheaper to buy the right to pollute. But environmentalists expect emissions-trading markets eventually to price the gas at about $50 a tonne, and Dr Lackner hopes to get the cost of his process down to $30 per tonne in the long run.

Fuel from the air?

Building huge air-capture plants to reabsorb the carbon dioxide produced by burning fossil fuels would be a perverse outcome. For one thing, the fossil fuels will run out eventually. But air capture could provide an ingenious alternative. If the CO_2 extracted from the atmosphere were combined with hydrogen (extracted from water using electrolysis), it could make synthetic hydrocarbon fuels. This would allow the use of existing fossil-fuel vehicles and fuel-distribution systems, but with much reduced environmental impact. Dr Keith calls this approach "carbon-neutral hydrocarbons".

Unfortunately, making synthetic hydrocarbons is very energy intensive, and it would make sense only if they were powered by renewable energy sources. "Fundamentally the biggest cost of making fuel from CO_2 is the cost of getting the energy for it," says Dr Eisaman. He estimates that synthetic fuel would cost $4-5 per gallon once all is said and done. So the oil price would have to be much higher than it is today for this to make sense. And using renewable energy to make fuel might seem like an odd thing to do, given that it could power electric cars directly.

One way in which air capture and renewable energy might fit together well, however, would be to divert excess power from wind farms to air-capture systems. Wind farms sometimes produce more power than utilities can use, particularly if it gets windy at night, when electricity demand is low. Some utilities turn off their wind turbines to avoid overloading their grids. Dr Lackner suggests diverting it instead to air-capture systems. In theory, air-capture systems could then operate at a profit, by generating carbon offsets that could be sold on carbon-trading markets. Dr Lackner even suggests selling such offsets at petrol stations, along with fuel.

Air capture appears to be technically feasible. But the economics are still unclear, and the politics murkiest of all. Will developing countries build enormous air-capture plants, powered by coal, to offset the emissions associated with industrialisation? Will the technology discourage efforts to improve energy efficiency, or might it be a valuable tool in the fight against climate change? At the moment, air capture is merely experimental. But a sudden breakthrough could pose some tricky questions.

Indeed, there is a telling historical precedent. In 1909 Fritz Haber, a German chemist, discovered a new way to combine nitrogen from the air with hydrogen to produce ammonia. Previously, this was known to be technically possible, but the process was hopelessly inefficient. Haber's new process, subsequently scaled up by Carl Bosch, meant that ammonia could be produced in industrial quantities, for use in both agricultural fertiliser and explosives—with momentous historical consequences. Haber was awarded the Nobel prize in chemistry for producing "bread from the air". Ammonia synthesised using the Haber-Bosch process underpinned the "green revolution" in the second half of the 20th century and its associated population boom; today it sustains one-third of the world's population. A century later, might scientists tinkering with another apparently inefficient process be on the verge of another unexpected breakthrough?

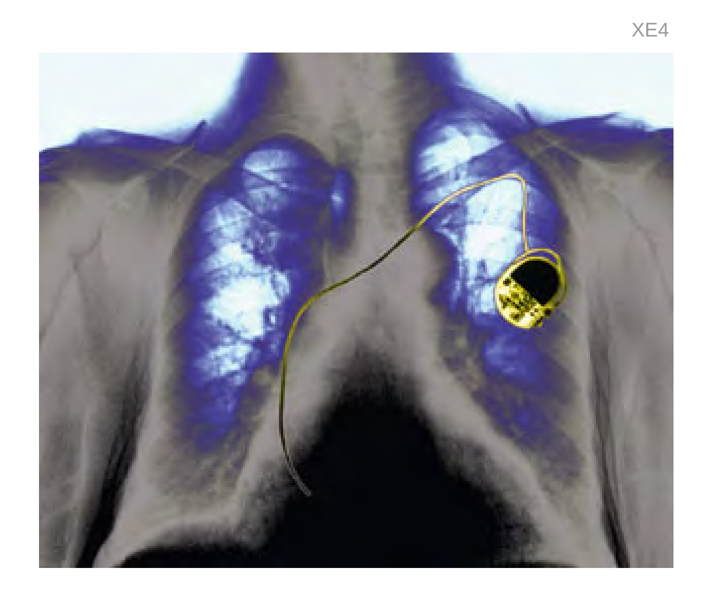
Case history

The rhythm of life

Mar 5th 2009
From The Economist print edition

Medical technology: Devices that maintain and restore a normal heartbeat date back to the 1950s. Now they are becoming far more widely used

XE4



IN 1889 John Alexander MacWilliam, a brilliant young Scottish physiologist, made a shocking discovery. Using little more than a metronome and a needle electrode inserted into the hearts of cats, he found that he could speed up and restore normal heart rhythms by applying periodic electrical shocks. His findings led to the artificial pacemaker and, in the 1980s, the implantable defibrillator, spawning the multibillion dollar "heart-rhythm management" industry.

In the half-century after the first pacemaker was implanted, the principles behind the technology changed very little from MacWilliam's first demonstration. But the industry is now undergoing a technological revolution. A new generation of smaller, smarter devices promises to administer fewer unnecessary shocks and to reduce the size of the characteristic bulge in patients' chests. As the technology improves and the list of treatable conditions grows, larger numbers of ever-younger patients are being fitted with these devices. More than half a million pacemakers and defibrillators are now implanted each year, each of which will see out its battery life supervising and regulating tens of millions of heartbeats.

The first patient to receive a fully implantable artificial pacemaker was a 43-year-old Swede called Arne Larsson. He had his wife, Else-Marie, to thank for it. Not willing to accept her husband's seemingly inevitable death from a heart condition, she decided that he might benefit from the kind of cardiac pacing that she had heard was being tested on animals. Using her formidable powers of persuasion she convinced Ake Senning, a surgeon at the Karolinska University Hospital in Stockholm, and Rune Elmqvist, a medically trained engineer, to build a device especially for her husband.

The first prototype was constructed in Dr Elmqvist's kitchen and was implanted in Mr Larsson on October 8th 1958. It lasted just three hours. The next morning Mr Larsson received a second, identical device that lasted two days. Undeterred, he went on to receive 26 further devices. Mr Larsson became a prominent campaigner for the technology until his death at the age of 85—from causes unrelated to his heart condition.

Electrical pulses

An artificial pacemaker works by restoring the function of a faulty sinoatrial node, the heart's natural pacemaker. Normally the sinoatrial node generates regular electrical pulses that spread across the chambers of the heart, causing the cells to contract in synchrony. When the sinoatrial node starts to malfunction it can cause dangerously slow or erratic rhythms to develop. By inserting electrodes into one or more of the chambers of the heart, via a large vein, it is possible to mimic its function by applying small electrical shocks at regular intervals. Power leads link the electrodes to a small hermetically sealed metal box, called the generator, that contains the battery and electronics.

Today's generators are not much bigger than a matchbox. Mr Larsson's first devices were the size of a tin of shoe polish. Indeed, that is precisely what Dr Elmqvist used to create moulds for his epoxy-resin generators. But most of the pacemakers that followed were considerably larger. The reason was, quite simply, power. Dr Elmqvist was able to make his devices relatively small because they were designed to be recharged regularly from outside the body, using an induction loop. As other pacemakers were developed, this approach was quickly deemed imprudent. Because patients tended to be elderly, cardiologists were concerned that they would find the recharging process difficult, or might forget to do it, says David Steinhaus, medical director of Medtronic—one of the three companies, along with Boston Scientific and St Jude, that dominate the field.

Getty Images



Setting the pace in 1958

Switching to non-rechargeable designs meant that generators needed enough power to run for years at a time. This meant using big mercury-zinc batteries, making the generators up to five times bigger than modern devices. Unfortunately the batteries also gave off hydrogen gas as a chemical by-product, which diffused into the body. This was less than ideal. But Arjun Sharma, chief patient-safety officer at Boston Scientific, points out that at the time it was the best technology available. Despite these drawbacks, the first implantable pacemakers were an improvement over what had come before. Before Mr Larsson received his implantable device, patients had received pacing from huge external devices. "These were the size of car batteries," says Dr Sharma. "They were so big they were having to roll them around on carts."

In the mid-1960s the search for better power supplies prompted a company called Nuclear Materials and Equipment Corporation in Apollo, Pennsylvania, to take the radical step of developing an atomic pacemaker. Powered by a tiny piece of radioactive plutonium-238, the device was designed to last ten years—five times longer than mercury-zinc batteries. To protect the patient, the battery was sealed in three layers of casing designed to withstand a rifle shot. The first radioactive pacemaker was put into a patient in France in 1970.

Before the first implantable device, pacemakers were so big they were pushed around on trolleys.

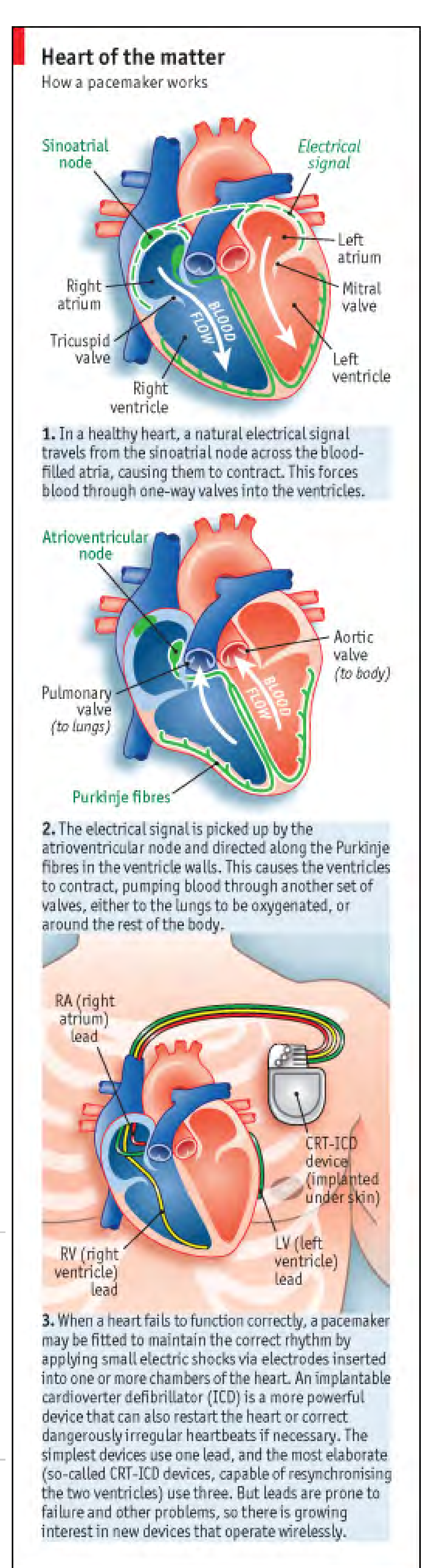
The lifespan of these devices was a lot longer than that of their predecessors. Sometimes they even outlasted their patients, says Dr Steinhaus. ("I took one out that had been in for 19 years," says Dr Sharma.) But there were problems beyond the risk of radiation poisoning to the patient. Removed devices were, by definition, nuclear waste and had to be disposed of accordingly. Eventually the new lithium-iodine battery offered a radiation-free eight-to-ten year lifespan, and no exhaust gases to worry about.

Improved batteries also led to a beefed-up version of a pacemaker that could restart the heart, and correct irregular or dangerously fast heartbeats, when necessary. These devices, known also as implantable cardioverter defibrillators (ICDs), work by zapping the heart with a large jolt of electricity. The first ICD was implanted in 1980 at Johns Hopkins Hospital by Levi Watkins, after more than 20 years' work by a pioneering team at Sinai Hospital, in Baltimore.

ICDs are considerably more advanced and complex than pacemakers and use small computers to sense electrical activity, monitor the heart and determine when and how to apply a therapeutic shock. The latest models are equipped with remote-telemetry features that allow doctors to monitor their operation. After a series of trials they have been found to be more effective

at preventing some forms of sudden cardiac death than drug treatments are. As a result, they have become popular in recent years, and implantation has become a routine outpatient procedure that can take less than 30 minutes.

See videographic on the mechanics of the heart and the technology that can assist it.



1. In a healthy heart, a natural electrical signal travels from the sinoatrial node across the blood-filled atria, causing them to contract. This forces blood through one-way valves into the ventricles.

2. The electrical signal is picked up by the atrioventricular node and directed along the Purkinje fibres in the ventricle walls. This causes the ventricles to contract, pumping blood through another set of valves, either to the lungs to be oxygenated, or around the rest of the body.

3. When a heart fails to function correctly, a pacemaker may be fitted to maintain the correct rhythm by applying small electric shocks via electrodes inserted into one or more chambers of the heart. An implantable cardioverter defibrillator (ICD) is a more powerful device that can also restart the heart or correct dangerously irregular heartbeats if necessary. The simplest devices use one lead, and the most elaborate (so-called CRT-ICD devices, capable of resynchronising the two ventricles) use three. But leads are prone to failure and other problems, so there is growing interest in new devices that operate wirelessly.

Cardiac connections

The life-saving benefits of this technology are irrefutable. But some cardiologists think there is still plenty of room for improvement. One of the problems is with the power leads, which can fail for a variety of reasons. Manufacturing problems have resulted in large-scale recalls in some cases, and the leads can develop faults while within the body due to the mechanical stresses caused by movement or impact. According to Andrew Grace, a cardiologist at the Papworth Hospital in Cambridge, Britain, patients with ICDs have a 20% chance of lead failure within ten years.

Modern devices are often able to detect the early signs of lead failure, so the patient is not in danger. The trouble is that replacing leads is itself risky. The ends of leads are barbed to encourage them to stay in place within the heart, so removing them can be tricky. If they fail to come out with a simple tug, which happens in about one in every 50 cases, then the only option is open heart surgery. Lead replacements have a morbidity rate of 2-5%, says Warren Smith at the Auckland City Hospital and Green Lane Hospital in New Zealand. (Replacing the generator, by contrast, is relatively straightforward, involving a small incision in the chest, and carries only a 1% risk of complications.)

This has led to several efforts to look for new ways to pace and defibrillate the heart. The one closest to market is a device developed by Cameron Health, a company based in San Clemente, California, called the "subcutaneous ICD" or S-ICD. It works like a normal ICD but has a crucial difference: instead of placing the electrodes inside the heart and threading the power leads along veins, the electrodes and leads sit outside the heart, just under the patient's skin. This should make the device easier and safer to implant. "Historically, lead-related problems have presented some of the most significant challenges to clinicians," says Jay Warren, the boss of Cameron Health.

After decades of incremental innovations, the stage is set for rapid improvements in the coming years.

In one case from 2001, a 79-year-old patient of Michael Sweeney, a cardiologist at Brigham and Women's Hospital in Boston, got more than he bargained for when his implanted defibrillator exploded during a routine test. According to Dr Sweeney a loud popping sound and a bright blue flash emanated from the man's chest as he was testing the device. Fortunately the patient was unharmed. When the device was removed and examined, it transpired that the insulation on the excess lead, coiled up next to the generator, had worn away, causing a short-circuit. Such cases are very rare, but lead failures of other kinds are not.

The S-ICD's design makes lead failures somewhat less likely, because the outside of the heart is a less

hostile environment than the inside. More importantly, it also makes replacing a lead much easier, since it does not involve pulling the old lead out of the heart. Putting the electrodes and leads outside the heart has the further benefit that it allows the device to determine what is going on more accurately, because there is less electrical noise. Research suggests that as many as one-third of all ICD shocks—which have been likened to being unexpectedly kicked in the chest—are unnecessary, and are triggered when the device wrongly concludes that it has detected a dangerous heart rhythm. Trials of the S-ICD began in Europe earlier this year, and Cameron Health hopes to win regulatory approval by the summer.

No wires, just sound

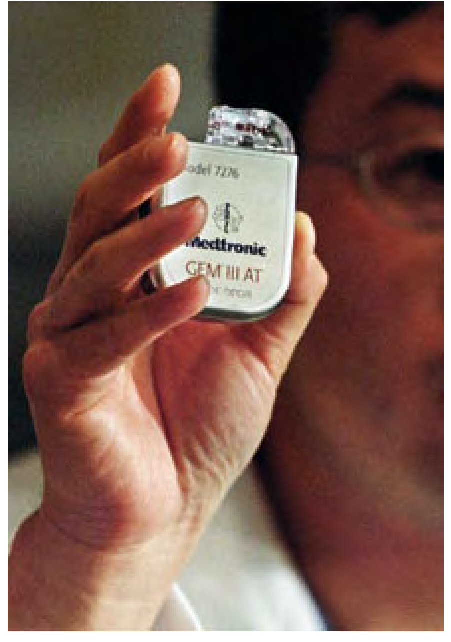
The subcutaneous device is one way to reduce lead-related problems. Another, developed by EBR Systems in Sunnyvale, California, is to do away with the leads altogether. Inspired by the fact that a heart can be restarted simply by thumping the chest, Debra Echt started to explore the use of shock waves as a form of heart-rhythm management. She teamed up with an acoustic physicist, Axel Brisken, and a former engineering director of Medtronic, Rick Riley, to form EBR Systems.

Together they have devised a wireless cardiac-stimulation (WiCS) device that uses focused ultrasound to stimulate a tiny receiver device, the size of a grain of rice, placed within the heart. A small generator-like box sits in the chest as usual. It uses an array of ultrasonic transducers to focus energy, in the form of high-frequency sound waves, at the receiver device embedded in the heart. Dr Echt will not give precise details, but says it "converts the energy back into electrical energy" to pace the heart.

Initially the idea was to use this approach to defibrillate. "But that has proved too challenging for our first product," she says, mainly because the energy requirements are so great. So for the time being, the aim is to use WiCS as an alternative to traditional pacing. In particular, EBR Systems believes its approach will offer benefits over lead-based devices in the relatively new form of heart-rhythm management called cardiac resynchronisation therapy (CRT).

This is a new feature, available on some defibrillator-like devices that are now on the market, which is aimed at people with a form of heart condition that causes their two ventricles to beat slightly out of phase with each other. "It's a $3 billion market," says Dr Echt. Such devices have an extra lead that uses a circuitous route to reach the otherwise hard-to-reach left ventricle. This extra lead runs from the more easily accessible right ventricle of the heart, out of the heart and into the external vasculature of left ventricle, shocking it from outside the heart. This means an electrical pulse can pace both ventricles, resynchronising them. But it also means that there is another lead that could potentially go wrong.

AFP



Small is beautiful

EBR implants a second receiver device in the left ventricle, meaning that the same ultrasonic controller can pace both ventricles without the need for any leads. This method also has the advantage that the placement of the receiver allows the pacing of the heart to be very precisely controlled, says Dr Echt. Trials in animals have proved promising so far, and EBR Systems is hoping to begin human implantations some time in 2010.

Meanwhile Heinrich Wieneke, an assistant professor of cardiology at the West German Heart Centre in Essen, is working on another leadless approach. In January he published the first details of his new approach, developed with physicists at the Heinrich-Heine University of Dusseldorf. It is similar to Dr Echt's leadless pacemaker, but it uses electromagnetic induction, rather than ultrasound, to stimulate a small implanted receiver, which in turn stimulates the heart.

As with Dr Echt's design, power constraints mean that this approach can be used only for pacing. But one of its advantages is that, unlike other devices, it does not require a bulky generator box to house the transmitter. That is because the transmitter uses a large flat coil, placed over the heart, to generate the magnetic field that powers the receiver. This design, combined with flexible, thin-film batteries, could lead to a flat device that is far less obtrusive than a lumpy generator.

Cardiologists and engineers are, in short, coming up with all kinds of new ideas to improve the performance of cardiac devices and make them smaller and safer. Admittedly, the new ideas seem to be

coming from start-ups, rather than the established suppliers of such devices, which are taking a more cautious approach. But after decades of small, incremental innovations, the stage is set for some rapid and dramatic improvements in the next few years. Oddly enough MacWilliam's pioneering research went unrecognised until decades after his death; his paper on the subject only resurfaced in 1972. Like the beating of a heart, the field has been marked by periods of rest, followed by spurts of activity.

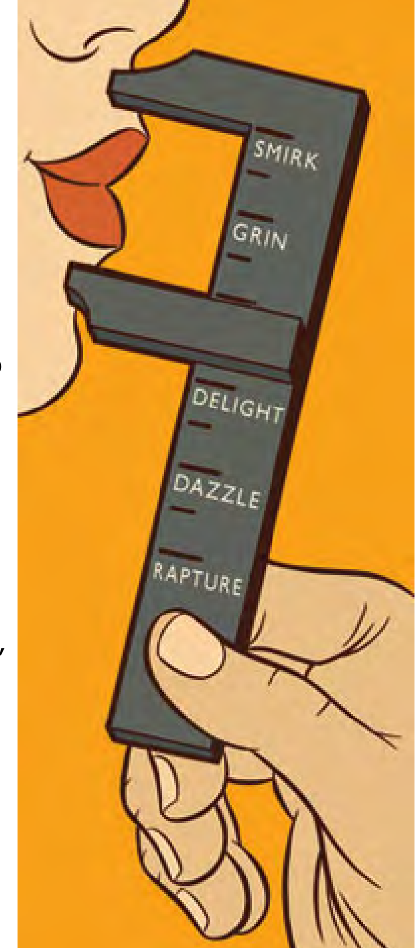
Video analysis

Machines that can see

Mar 5th 2009
From The Economist print edition

Computing: Advances in computer-vision software are begetting a host of new ways for machines to view the world

Nick Dewar



ENSURING that employees wear warm smiles when helping customers is good business—but no easy task, even for attentive managers. Omron Corporation, a Japanese developer of robotics software, is concocting a solution. Its software can analyse digital images, including video, to recognise and classify facial expressions. Soon the company will start selling a "smile measurement" system that will alert managers—in real time, if desired—when a cashier fails to muster an adequate grin. The software is configurable, so employers will be able to decide just how happy their employees should appear.

Using computers to measure smiles will strike many as absurd. Yet machines are learning to see in increasingly reliable and useful ways, opening up a wide range of new applications. Indeed, computer vision, also known as object recognition, has developed so rapidly over the past few years that rather than struggling to make sense of what they see, computers can now outperform humans in some cases. Curiously enough, one such category is interpreting human facial expressions.

Venu Govindaraju, a computer scientist at the University of Buffalo in New York, is designing software that helps determine the authenticity of expressions. He found that expressions that take as much time to form as to fade away are more likely to be genuine than those with unequal "onset" and "offset" durations. Detecting phoniness this way is far from fail-safe, but it is a good guide. So good, in fact, that Unilever, an Anglo-Dutch consumer-goods giant, is using expression-analysis software to pinpoint how testers react to foods. Procter & Gamble, an American competitor, is using similar technology to decipher the expressions of focus groups viewing its advertisements.

Using computer vision to analyse how people react to advertising, combined with the ability to identify what sort of people they are, also provides new opportunities. Digital billboards—the large TV screens that display advertisements in public places—already take into account the weather (touting cold drinks when it is hot) and the time of day (promoting wine in the evening). NICTA, a media laboratory funded by the Australian government, has gone a stage further. It has developed a digital sign called TABANAR, which sports an integrated camera. When a passer-by approaches, software determines his sex, approximate age and hair growth. Shoppers can then be enticed with highly targeted advertisements: action figures for little boys, for example, or razors for beardless men. If the person begins to turn away, TABANAR launches a different ad, perhaps with dramatic music. If he comes back later, TABANAR can show yet another advertisement. "You tend to go: 'Wow, thanks, how did you know I needed that?'," says Rob Fitzpatrick of NICTA.

Computer vision can prevent sales, too. In Japan it recently became illegal to sell tobacco from vending machines without verifying that customers are at least 20 years old. Fujitaka, a maker of vending machines in Kyoto, promptly devised a solution: it built dispensers with artificial vision. Fujitaka's new machines refuse to sell cigarettes if their software detects plumpness in the skin (a tell-tale sign of adolescence) around a potential customer's eyes. Tests show that the system is slightly better at estimating people's ages than nightclub bouncers are. Ray Chiang of Fujitaka says sales surged after the

government certified the technique last year.

The elderly are also coming under scrutiny. Computer scientists at the Toronto Rehabilitation Institute in Canada have been testing a computer-vision system for monitoring people living in nursing homes or alone. A cheap camera, stuck to the ceiling, wirelessly relays images to a small computer that monitors how people move. When someone neglects to brush their teeth, flush the toilet or wash their hands, a speaker can prompt them to do so. And if a person falls over or stops moving, and fails to declare that all is well when prompted by the computer, the system calls a relative or dials an emergency number.

Watching while you work

Similar software can identify slackers in fast-food kitchens. This year HyperActive Technologies of Pittsburgh, Pennsylvania, is launching “HyperActive Bob”, a system that processes data collected by an array of cameras and alerts restaurant managers (either on site, or back at headquarters) when employees indulge in lengthy toilet breaks, or are slow to toss burgers onto the grill. The monitoring will be offered as a subscription, costing less than $200 a month for each restaurant.

Nello Zeuch, an independent consultant based in Yardley, Pennsylvania, says computer-vision systems are also being used to monitor products on assembly lines, as well as the workers assembling them. In car factories, for example, workers can be notified by vision systems if components are missing or improperly seated. In some cases, workers are warned if they reach for the wrong tool or part. In electronics factories vision technology has become a vital part of the testing process. A machine can examine a circuit board for faults almost instantly. A human would take far longer to do the same thing, and would be less accurate.

Computer vision has even advanced to the point that it can perform internet searches with an image, rather than key words, as a search term. Later this year Accenture, a consulting firm, will launch a free service, called Accenture Mobile Object-Recognition Platform (AMORP), that will enable people to use images sent from mobile phones to look things up on the web. After sending an image of, say, a Chinese delicacy, a curious foodie might receive information gleaned from AsianFoodGrocer.com, for example. Fredrik Linaker, head of the AMORP project at Accenture’s research centre in Sofia Antipolis, France, likens the project to “physical-world hyperlinking”.

Computers no longer struggle to make sense of what they see, but can instead outperform humans.

Microsoft is developing a competing service, known as Lincoln, which can already recognise more than a million objects in videos or photographs. Larry Zitnick, a Microsoft researcher in Redmond, Washington, notes that searching with images is often more precise than using words. Transmitting a picture of the Eiffel Tower taken from a magazine, for example, will fetch web pages that include information about travelling to Paris. Sending video footage of the monument itself, by contrast, will return web pages that contain useful information about the tower’s opening hours, or good places to eat nearby.

Sending pictures to the internet could help robots as well as people. Jim Little of the University of British Columbia in Canada wants to make robots less clumsy. He has connected robots wirelessly to the internet, enabling them to search for pictures online so that they can quickly learn to recognise nearby objects. Curious George, one of Dr Little’s robotic creations, can identify a book, for example, by finding a picture of it on Amazon, a leading online retailer.

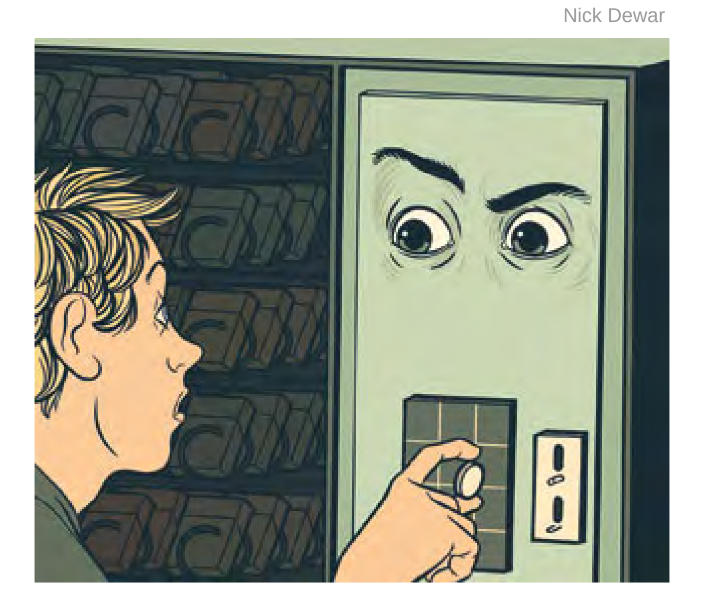
One of the most promising uses of computer-vision software is in combating crime. In January a company called Evolution Robotics, based in Pasadena, California, began selling shopkeepers a system called LaneHawk InCart. When a customer arrives at a supermarket checkout, an overhead camera identifies the items on the conveyor belt and anything left behind in the shopping trolley. It then rings up the correct cost of the items. The system prevents “sweethearting”—the practice by which cashiers collude in a theft, either by failing to scan an item or by entering the wrong price. It also overcomes bar-code switching, in which would-be thieves remove the original bar-code and replace it with that of a cheaper item.

Eyes of the law

Nabbing drivers who switch car number-plates is another area where computer vision promises to help. Autonomy, a British firm, sells software that can recognise the make, model and colour of moving vehicles. By analysing data from roadside cameras, the system can notify police the moment a car drives

past with a number-plate registered to another vehicle.

Nick Dewar



Similar technology is being used by repossession companies and other firms eager to get their hands on rogue vehicles. Last September Dijital Video ve Imge Teknolojileri, a firm based in Istanbul, launched a computer-vision system that uses a small camera mounted behind a car's windscreen. A law firm installed it in 20 cars to look out for wanted vehicles and alert the police. Within two months it had led to the arrest of 15 drivers. They were "quite surprised", says Muhittin Gökmen, the company's founder. "They didn't know they could be captured like this."

Car-mounted vision systems can be used to prevent accidents as well as crime. The system sold by Mobileye Vision Technologies in Jerusalem, for example, notifies drivers of vehicles hidden in blind spots and advises them against changing lanes if speeding or erratically moving vehicles are nearby. The company has sold more than 100,000 systems to carmakers including BMW, General Motors and Volvo. This year Mobileye will launch a new system that applies the brakes if a collision is imminent.

The Technion-Israel Institute of Technology in Haifa, meanwhile, is developing roadside vision systems for dangerous junctions. If approaching cars appear to be heading towards a collision, drivers are warned by flashing street signs. Such safety systems need not be limited to roads. DFS Deutsche Flugsicherung, a government agency responsible for air-traffic control in Germany, is about to launch vision software for airports. Using images collected by surveillance cameras, its Advanced Surface Movement Guidance and Control System will warn traffic controllers of potential collisions between taxiing aircraft and vehicles ferrying luggage and food.

Jake Aggarwal, an expert in the security implications of traffic patterns at the University of Texas at Austin, is using funds from America's defence department to analyse footage of suspicious driving filmed from above. Understanding vehicle movements, Mr Aggarwal says, is especially helpful to intelligence and security experts in Afghanistan and Iraq. Suspect vehicles include those that drive in circles and those that go to government buildings and military facilities, especially if they stop near them.

Advances in computer vision, in short, have applications in fields from advertising and manufacturing to road safety and counter-terrorism. It is a technology worth watching closely.

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Crowd modelling

Model behaviour

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New Line Cinema



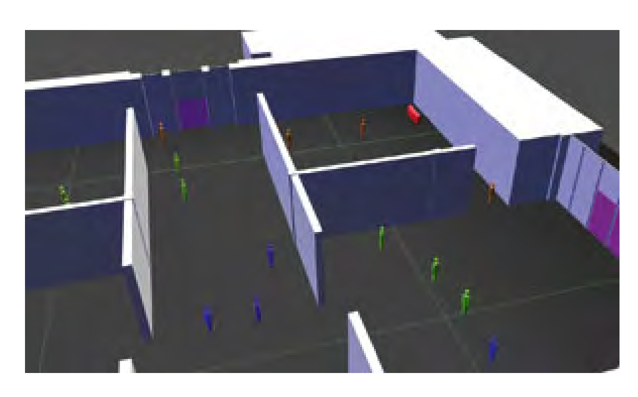
An army of orcs from the "Lord of the Rings" trilogy

Software: Simulating the behaviour of crowds of people, or swarms of animals, has both frivolous and important uses

THE warmongering orcs depicted in the "Lord of the Rings" trilogy are evil, unpleasant creatures that leave death and destruction in their wake. But if you find yourself in a burning building a few years from now, they might just save your life. That is because the technology used to make hordes of these menacing, computer-generated monsters move convincingly on screen turns out to be just what is needed to predict how crowds of humans move around inside buildings. Engineers and architects hope that they will be able to improve building safety by modelling how people behave in the event of a fire.

The simulation of the behaviour of crowds of people and swarms of animals (not just mythological ones) is also being applied to many other unusual situations, from designing better closed-circuit television (CCTV) security systems to managing the traffic of ships in harbours. The same technology has also been used to improve the understanding of archaeological ruins and to model entire ecosystems in order to design wildlife-management strategies.

When the first film in the "Lord of the Rings" trilogy was released in 2001, much was made of its heavy reliance on computer-generated imagery (CGI). But what was perhaps most impressive were the epic battle scenes, which broke new ground in special effects by showing huge numbers of characters with an unprecedented degree of detail and realism. For this the trilogy's director, Peter Jackson, largely has Stephen Regelous to thank. Mr Regelous is the founder of Massive Software, based in Auckland, New Zealand. His firm's software made it possible to generate as many as half a million virtual actors in a single shot, each behaving in an independent and plausible manner.



The same approach can also be used to model how people move through buildings

That is because every character was, in effect, given a brain, says Diane Holland, Massive's chief executive. Each one was modelled as a software "agent" with its own desires, needs and goals, and the ability to perceive the environment and respond to the immediate surroundings in a believable way. Any given orc, for example, could work out which other fighters on the battlefield were in its line of sight, and hence whether it should flee or attack. This produced far more realistic results than orchestrating the motions of the digital extras in a scripted, choreographed way.

Nate Wittasek, the leader of the Los Angeles Fire Engineering Group at Arup, an engineering firm, was one of many people impressed by the realism of the battle scenes. A former firefighter, he realised that the same technology might be just what he had been looking for to model how people behave during a blaze—something that is increasingly being incorporated into the design of large buildings. Using computational models of crowds, it is possible to set up various scenarios and evaluate how the occupants move through the building.

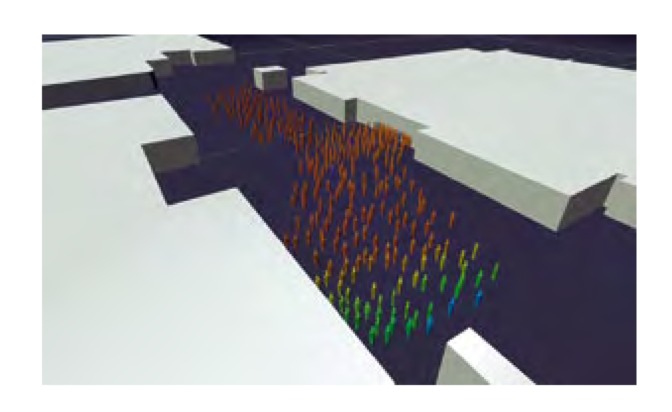
The trouble is that the software that is used to do this generally treats people like particles in a fluid, says Mr Wittasek. "It assumes people behave like water flowing through a pipe," he says. "They move at constant flow rates, heading for the nearest exits. But that's not realistic." Human behaviour is in fact far more complex and often quite irrational. When fleeing a fire people will often try to retrace their steps and leave the building by the way they came in, rather than heading for the nearest exit—even if it is much closer.

Send for the orcs

Similarly, on hearing a fire alarm many people do absolutely nothing. It is only when they see direct evidence of a fire, such as smoke or flames, that they act, says Mr Wittasek. How people respond to a fire also depends on their age, size and physical condition. Modelling people as a smooth-flowing fluid fails to capture such basic features, says Mr Wittasek. "We have all this great physics for figuring out how heat moves in a building, but what we lack is how people behave," he says. "If we understand that better, then we can inform our designs better."

So Mr Wittasek has been applying Massive's crowd-modelling technology to building safety. The underlying software is essentially the same, says Ms Holland. Agents in both situations take account of what other agents around them are doing, for example. But for Arup's purposes, several tweaks were added. In particular, agents were given the ability to find their way around an environment. In a five-second shot during a battle scene, an agent does not have time to learn anything. But a 45-minute evacuation scenario, says Ms Holland, is "an altogether different animal". The agents need to be able to remember their surroundings, and to plan routes accordingly, as they navigate the environment looking for a safe escape. This means reprogramming the goal-seeking software that drives the agent. "The brain design of the movie agents focuses on how they will react to particular stimuli and situations, such as deflecting an incoming battle axe, and finding an enemy," says Ms Holland.

The result is Massive Insight, a software package that makes it possible to create agents and program their behaviour preferences using simple graphical tools. The agents do not look terribly exciting: they resemble simple stick figures that move through a three-dimensional environment. But what really matters is how they behave, as far as Mr Wittasek is concerned. Although the figures do not appear to have legs, they move as if they do, becoming hindered in a stampede, for example, if others have fallen to the ground. The agents also have human-like vision and hearing, so they will only head towards an exit that they can see or remember. And they capture some of the subtleties of individual and group behaviour, says Mr Wittasek. People who have hitherto ignored a fire alarm are more likely to respond if they see other people around them heading for the exits, for example.



The software is still not quite ready for commercial use, but Mr Wittasek has been testing it using computer models of the newly redesigned Los Angeles County Museum of Art, and plans to do the same with the forthcoming Guggenheim museum in Abu Dhabi. So far this has just involved testing the software, says Mr Wittasek; the results have not been fed back to influence the buildings' design. But it has demonstrated that the software does indeed work, and allows a range of different types of character to be modelled, from first-time visitors to the building (who are easily disoriented) to informed employees who can act as stewards and shepherd people to the exits. There is also a degree of random variation between characters of a particular type. "Their actions aren't choreographed, so each time you run it you get different results," says Mr Wittasek. This makes it possible to carry out timed evacuations and spot possible design problems that can hinder evacuation, he says. "It's helping us to predict human behaviour, as opposed to predicting flow," he says.

The wisdom of crowds

Taking a similar approach is Demetri Terzopoulos, a computer scientist at the University of California in Los Angeles. He is using agents to simulate the behaviour of commuters passing through Pennsylvania Station in New York. His agents have memory, but they also have a sense of time and the ability to plan ahead. An agent entering the station will typically seek out the ticket office, stand in line to buy a ticket, and then perhaps kill some time watching a street performer if he has a few minutes before his train arrives, says Dr Terzopoulos. If he is running late, by contrast, he may try to push his way to the front of the ticket line before sprinting for the platform.

Dr Terzopoulos's research has shown that agents can simulate complex behaviours with great realism. Working with Qinxin Yu, a graduate student, Dr Terzopoulos has modelled how people behave in public when someone collapses. People crowd around to help, and some agents will even remember if they recently saw a police officer nearby, and run to get help, he says. Such realism is useful in the development of automated CCTV systems. Using real cameras for such research would raise privacy concerns, so he is making agent simulations available instead to researchers who are training cameras to detect unusual behaviour. Another intriguing application is to help archaeologists study ancient ruins. Using a model of the Great Temple of Petra in Jordan, Dr Terzopoulos has evaluated how it would have been used by the people who built it. He has concluded that the temple's capacity had previously been greatly overestimated.

Agents need not even represent humans. Massive has been working with BMT Asia Pacific, a marine consultancy, to model the behaviour of the thousands of ships operating in Hong Kong harbour. This involves simulating the behaviour of the ships themselves, each of which may be under the control of several people, says Richard Colwill of BMT. And rather than assuming that everyone will adhere to the maritime traffic code, which determines who has right of way, it can incorporate acts of bravado and incompetence. "We get about 150 collisions each year in Hong Kong," says Mr Colwill. His firm plans to use the software to determine which traffic-management strategies will be least disruptive during the construction of an immersed road tunnel that will need to be lowered into the harbour.

The technology can also be used to model animal behaviour. Massive is working with researchers at the University of Southern California (USC) School of Cinematic Arts and the Wrigley Institute for Environmental Studies, both in Los Angeles, to model animal behaviour on the conservation island of Santa Catalina, 20 miles off the coast. One aim of the research is to develop effective culling strategies for the island's bison population. These were introduced 85 years ago to make a silent movie and have since overrun the island and damaged local vegetation, say Eric Hanson, a professor at USC. The software will also be used to model other mammals and birds on the island.

As agent software becomes better able to capture complex real-world behaviour, other uses for it are sure

to emerge. Indeed, this could soon become a crowded field.

Brain scan

The internet's librarian

Mar 5th 2009
From The Economist print edition

Brewster Kahle wants to create a free, online collection of human knowledge. It sounds impossibly idealistic—but he is making progress


Andy Potts

FOR a man who has set himself a seemingly impossible mission, Brewster Kahle seems remarkably laid back. Relaxing in the black leather recliner that serves as his office chair, his stockinged feet wriggling with evident enthusiasm, the founder of the Internet Archive explains what has driven him for more than a decade. "We are trying to build Alexandria 2.0," says Mr Kahle with a wide-eyed, boyish grin. Sure, and plenty of people are trying to abolish hunger, too.

It would be easy to dismiss Mr Kahle as an idealistic fruitcake, but for one thing: he has an impressive record when it comes to setting lofty goals and then lining up the people and technology needed to get the job done. "Brewster is a visionary who looks at things differently," says Carole Moore, chief librarian at the University of Toronto. "He is able to imagine doing things that everyone else thinks are impossible. But then he does them."

Mr Kahle is an unostentatious millionaire who does not "wear his money on clothes", as one acquaintance graciously puts it. But behind his dishevelled demeanour is a skilled technologist, an ardent activist and a successful serial entrepreneur. Having founded and sold technology companies to AOL and Amazon, he has now devoted himself to building a non-profit digital archive of free materials—books, films, concerts and so on—to rival the legendary Alexandrian library of antiquity. This has brought him into conflict with Google, the giant internet company which is pursuing a similar goal, but in a rather different (and more commercially oriented) way.

Biblio-tech

After graduating in 1982 from the Massachusetts Institute of Technology (MIT), where he had studied with Marvin Minsky, an artificial-intelligence guru, Mr Kahle joined a group of MIT alumni who were founding a company, Thinking Machines, that made parallel supercomputers. There Mr Kahle worked alongside such luminaries as Richard Feynman (a Nobel prize-winning American physicist), Dr Minsky and Daniel Hillis, a maverick computer scientist best known as the inventor of the 10,000-year clock.

Building on the search technology developed at Thinking Machines, Mr Kahle left to found his own company, WAIS Inc, in 1989. It took its name from the Wide Area Information Server protocol, an early form of internet search engine which had been developed by Thinking Machines with Apple, Dow Jones and KPMG, and made software for online publishing. Its customers included the *Wall Street Journal*, which was setting up the first subscription-based online news site, and CMP, a magazine company that pioneered internet advertising. Mr Kahle was a decade ahead of his competitors in grasping the importance of payment systems, online privacy and user ratings. AOL bought the firm in 1995 for an undisclosed sum, thought to be around $15m.

Mr Kahle—who by 1996 had almost a dozen patents to his name—quickly turned to his next project. He founded the non-profit Internet Archive and, with a former colleague, co-founded a firm called Alexa that tracks and analyses the paths people follow as they move around the web, in order to direct people with

similar interests to relevant information. Amazon bought Alexa for an estimated $250m in 1999. Mr Kahle continued to work on Alexa until 2002, but then dedicated himself fully to the Internet Archive.

The most famous part of the archive is the Wayback Machine (its name inspired by the WABAC machine in the 50-year-old television cartoon featuring Rocky and Bullwinkle). This online attic of digital memorabilia stores copies of internet sites so that people can see, for example, what economist.com looked like in January 1997. Paul Courant, the dean of libraries at the University of Michigan, equates what the archive does for the internet with what the British Museum did for the British empire. "The internet has become the medium of choice for a great deal of cultural production," he says. The Wayback Machine "gives us access to what people were producing at different points in time," he says. Evidently this is of more than just academic interest: the site gets 500 page requests per second.

In addition to this archive of web pages there is also an audio library with more than 300,000 MP3 files, a moving-images archive with more than 150,000 films and videos, and a live-music archive with recordings of more than 60,000 concerts. All the collections are available free to anyone with internet access, each gathering its own set of fans. A remarkably popular archive within the audio library is devoted to the Grateful Dead.

But all these things are steps towards Mr Kahle's wider goal: to build the world's largest digital library. He has recruited 135 libraries worldwide to openlibrary.org, the aim of which is to create a catalogue of every book ever published, with links to its full text where available. To that end, the Internet Archive is also digitising books on a large scale on behalf of its library partners. It scans more than 1,000 books every day, for which the libraries pay about $30 each. (The digital copy can then be made available by both parties.)

It is easy to dismiss Mr Kahle as an idealist, but he has an impressive record of getting things done.

Some 200 people work for the Internet Archive, which has an annual budget of $10m-14m. Initially funded by Mr Kahle, the archive now gets much of its income from grants made by foundations and from libraries that pay it to digitise their books. It also runs a variety of one-off projects, such as a collaboration with America's space agency, NASA, to make available photos and films relating to the history of the space programme, and a "print on demand" system to turn digital files into physical books in minutes.

With his happy-go-lucky management style, Mr Kahle comes across as easy-going. But the 48-year-old has been known to stand his ground—even against the tough guys. "Come back when you have a warrant," reads the floor mat underneath his office recliner. It was a gift from the Electronic Frontier Foundation (an activist group on whose board Mr Kahle sits) after Mr Kahle refused to hand over information about one of the Internet Archive's users to the Federal Bureau of Investigation in 2007.

This activist for online privacy is also a staunch supporter of openness. He insisted that the Internet Archive's specially developed scanning machine, called Scribe, should be an open-source device, meaning that details of how it works are made available to anyone who wants them. The same is true of the "PetaBox", another archive-developed machine that holds 1m gigabytes of data. "Everything Brewster does is open. He personifies openness," says John Seely Brown, who sits on Amazon's board of directors and was previously the chief scientist at Xerox, and the director of its Palo Alto Research Centre. Being open "is the right way to have a thriving industry," says Mr Kahle. "I have been much more successful when letting people know what I want to do. I get much more help that way."

Underlying Mr Kahle's enthusiasm for openness is an implicit criticism of the much larger book-scanning project being undertaken by Google. Like Mr Kahle, Google's founders have a lofty goal: "to organise the world's information and make it universally accessible and useful." Since much of the world's information is in books, this means large-scale scanning. But whereas Mr Kahle has focused on old books that are no longer protected by copyright, and making the full text available, Google's Book Search project has scanned some 7m more recent works, most of them still covered by copyright, and allows access only to small chunks.

Google argued that since it was not making entire works available, it was not infringing copyright and did not need permission from publishers to display these small chunks (with advertising alongside them). The publishing industry disagreed and sued Google, and a settlement was reached in October 2008. It is still subject to a judge's approval, but could be finalised by June. Under the terms of the settlement, Google will put copyrighted works online only with the permission of publishers, who can also decide whether to make a preview available or not. Google will also be allowed to sell access to entire books online, sharing the proceeds with publishers. It has, in other words, struck a deal that will allow it to go on scanning books and make money providing access to them online.

Mr Kahle's approach to broadening the number of books available for his archive was rather different. He unsuccessfully sued the American government, in a case known as *Kahle v Gonzales*, in an effort to roll back what he regards as excessive copyright terms. Reducing the period of copyright protection would have dramatically expanded the universe of copyright-free works, and hence the number that could be scanned and made available online. This would have benefited everyone—not just Mr Kahle and his project.

Literary criticism

Google's legal settlement has caused controversy because it means that Google is now the only big company to be building a significant digital collection of copyrighted books. Some librarians worry that this gives the internet firm enormous power. "This is a more powerful monopoly than we've ever seen for access to 20th-century material," says Ms Moore of the University of Toronto. "We do not have a good track record in negotiating good prices with monopolies." Similar concerns led Harvard University to reduce its participation in Google's project. Other librarians, however, regard the Google settlement as a good compromise, even if it is not perfect and does not address the criticisms that Mr Kahle and other internet types have with copyright law. "Brewster wants everything to be free," says Mr Courant of the University of Michigan. "So do I. But there are important trade-offs between what we collect and preserve and what we can make available."

Although the two projects take very different approaches—one idealistic, the other pragmatic—it may be that they will end up complementing each other. Libraries can and do work with both projects. And if things with Google go sour, libraries can always go elsewhere. "If Google's prices are too high, we can and will arrange with other players to re-scan the works. We still have the original source material," says Mr Courant. Consumers, likewise, are free to access public-domain books in either collection.

It may be that a lack of library funds, rather than Google, poses the biggest short-term threat to Mr Kahle's dream. Google covers the cost of scanning libraries' books. But to get into Mr Kahle's archive, libraries must either do their own scanning or pay the archive to do it. And, like everyone else, libraries are feeling the financial squeeze at the moment.

But Mr Kahle is taking a very long-term view. Universal online access to all knowledge may not be "a goal that is going to be finished in our lifetime," says Mr Kahle. "But if you pick a goal far enough out, people can align to it. I am not interested in building an empire. Our idea is to build the future."

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Mar 6th 2009
From The Economist print edition

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Mobile telecoms in the recession

Boom in the bust

Mar 5th 2009
From The Economist print edition

Despite the recession, the mobile industry is enjoying a promising transformation

Illustration by David Simonds



WHEN the mobile-telecoms industry recently met in Barcelona for the Mobile World Congress, its biggest global shindig, head and body seemed oddly separated. Bosses bemoaned the downturn and demanded free radio spectrum to stimulate the industry. But on the show floor it was hard to keep track of all the new "smart" phones and services.

This disconnect is likely to continue for some time. Despite hopes to the contrary, the industry is not immune to the recession. Makers of handsets, which consumers are replacing more slowly, will be hard hit: unit sales are expected to fall by at least 10% this year, having increased by 6% in 2008 to 1.2 billion. But at the same time the industry is going through a transformation that promises to fuel rapid growth in the years to come. To draw a parallel from computing, it is as if the personal computer (PC), its graphical user-interface, high-speed internet access and open-source software had all taken off at the same time.

Conventional handsets are very good at making phone calls and sending text messages, but doing anything more complex, such as browsing the web, is painful. And do not even think of adding new software: installing applications is agony. With the latest smart-phones, however, which account for around 15% of handsets sold, voice calls and texting are just two features among many. New applications, often linked to a service on the internet, can be downloaded from an online "store" with a few taps on the touch-screen or miniature keyboard. Users are presented with an embarrassment of riches: there are thousands of mobile applications, ranging from the useful (to-do lists and e-book readers) to the ridiculous (beer-glass simulators and farting-noise generators).

Predictably, such flexible devices, and the programs that run on them, were pioneered by a newcomer to the mobile industry: Apple. By the end of 2008 it had sold more than 17m of its elegant iPhones, and there have been over 500m downloads from its "App Store" since its launch last July. Others have followed in Apple's footsteps. In Barcelona, for instance, Microsoft and Nokia, the world's largest software firm and handset-maker respectively, announced their own application stores. Research in Motion (RIM), the maker of the BlackBerry, and Google, the world's biggest internet firm, have done the same.

The popularity of software downloads to smart-phones, along with the rapid growth of mobile broadband (see article), have industry leaders making forecasts for the growth of mobile-data traffic that are reminiscent of some of the more outrageous predictions during the internet boom. Nokia Siemens Networks, a maker of network gear, expects mobile-data traffic to grow 300-fold by 2015.

But not everyone will be a winner. As handsets slowly turn into computers, the mobile industry will at last undergo the shift that has been predicted for several years: from being vertically integrated to being sliced into distinct, horizontal technology layers, such as networks, devices, operating systems and applications. The vertical "sausage" that was the industry is becoming a layered "hamburger", says Carl-Henric Svanberg, the boss of Ericsson, the largest maker of mobile-network gear.

This will transform the economics of the industry. Historically, network operators have been in the strongest position, explains Ben Wood of CCS Insight, a market-research firm. They owned the radio spectrum, built the networks, maintained the relationships with customers—and then grabbed most of the spoils. But in the new world, predicts Mr Wood, they will have to share revenues and profits with providers of software and services, such as Apple, Google and Facebook.

When the internet first reached mobile phones in the late 1990s, operators tried to keep subscribers in "walled gardens" of services that they controlled. When this ultimately failed (having held back the entire industry), it became fashionable to predict that operators would end up as "dumb pipes"—simple data conduits that do not add much value. That outcome may be desirable, but it is not the most likely. Operators are too powerful simply to roll over, says John Delaney of IDC, a market-research firm. They have assets other firms need, such as the infrastructure for customer support, and the means to pinpoint users or target advertising. In fact, operators have started to offer such building blocks to underpin other firms' mobile services and have launched an effort to standardise them, called OneAPI.

If operators cannot control the mobile internet, might others, such as Apple, Google or Nokia, become gatekeepers? After all, the rise of the PC catapulted two firms into dominant positions: Microsoft and Intel, the world's biggest chipmaker. With a share of about 90% and 80% in the markets for PC operating systems and processors respectively, they make most of the money.

But it seems unlikely that the mobile-phone industry will produce such quasi-monopolies. For one thing, everyone saw what happened with Microsoft in PCs. It was to avoid a similar situation that Google developed its own operating system for smart-phones, called Android, and then proceeded to give it away as open-source software. Google did not want to be "blocked by another business model", as Andy Rubin, the firm's Mr Android, puts it. Nokia has also opened up Symbian, the operating system that powers its smart-phones. So even though Apple and Microsoft are maintaining a tighter grip on their own smart-phone operating systems, this layer of the industry hamburger seems bound to become a commodity.

An Intel-like monopoly in chips also seems implausible. Although Intel is making a big push into the mobile industry with its latest line of low-power chips, called Atom, plenty of other firms already supply such chips—most of them based on designs developed by ARM, a British firm. Conversely, it seems unlikely that handsets will ever become as much of a commodity as PCs. The handset market is maturing and most growth will come from software and services (which is why Nokia has launched Ovi, an attempt to create a global one-stop shop for such offerings). But handsets are much more personal than PCs and offer more scope for innovation.

Then, of course, there is the question of how big the new hamburger will be. Informa, a market-research firm, projects revenues from content and data services of $240 billion by 2012. Although most applications on Apple's App Store are free, consumers spend some cash there: a sixth of American iPhone users spent over $100 in the past year, according to ABI Research, another market-research firm. It remains to be seen whether this promising new source of revenue proves sustainable. But despite the economic turmoil elsewhere, the industry seems justified in its confidence that the smart-phone is finally emerging as a powerful, innovative and lucrative new computing platform.

The boom in mobile broadband

Priming the pipe

Mar 5th 2009
From The Economist print edition

Mobile operators discover the dangers of being reduced to a dumb pipe

AS HANDSETS turn into computers, laptops are becoming more like mobile phones. Even industry veterans have been surprised by the rapid take-up of mobile broadband—using built-in receivers or plug-in “dongles” to provide internet access to laptops via high-speed mobile networks. The advantage of this is that it works anywhere—unlike short-range Wi-Fi technology, it is not limited to a few hotspots. In Western Europe alone, the number of mobile-broadband users will grow by 50% to 27m this year, according to IDC, an analyst firm. Worldwide, there are thought to be around 100m.

What explains this unexpected boom in such troubled times? Operators have been cutting their prices for data-only connections: in Britain, 3, a subsidiary of Hutchison Whampoa, charges as little as £10 ($14) per month for one gigabyte of data. Prices for dongles are falling, too. Connection speeds are improving as operators upgrade their networks. And then there is the surprising success of netbooks—cheap laptops that are small enough to take everywhere. Operators have even started giving away netbooks with some mobile-broadband contracts.

The growth, however, comes with a couple of big drawbacks for the operators. One is loss of control. Subscribers can do what they want: the operator is merely a “dumb pipe” to the internet. Next, rates have been falling quickly. “The pricing is crazy—mobile broadband is becoming a commodity way too fast,” notes Didier Bonnet of Capgemini, a consulting firm. Another problem is overuse. Operators complain that a small group of users eats up most of the available network capacity. Some are users of illegal file-sharing networks who want to be harder to track down. To throttle them, operators are thinking of giving some data packets (such as web traffic) priority over others (such as file-sharing). “Network neutrality”, the principle that operators should not discriminate between different forms of traffic, will not succeed on mobile networks, says Holger Knöpke of T-Mobile, a European operator.

If they do not want margins to drain away, operators must find ways to enhance and differentiate their offerings. “We have no choice but to innovate,” says Olaf Swantee, head of mobile operations at Orange, a big European operator. That is a tall order. But the alternative is to become low-margin utilities.

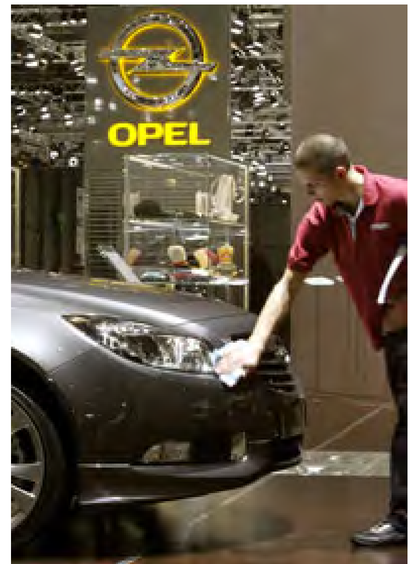
The crisis in the car industry

No Opel, no hope

Mar 5th 2009
From The Economist print edition

General Motors needs Opel, but is powerless to help it

Reuters



Looking for a buyer

IT WAS exactly 80 years ago, just seven months before Wall Street's Great Crash, that General Motors (GM) bought Adam Opel AG, Germany's biggest and most efficient carmaker at the time. By the late 1930s Opel was the largest carmaker in Europe and GM was established as a global automotive giant. This week, against the background of another world financial crisis, a humbled GM offered to surrender up to 50% of its stake in Opel in a bid to persuade the German government to rescue its subsidiary from insolvency.

Opel is not a basket case. But nor is it strong enough to ride out the hurricane wrecking the world's car industry without help that GM, its own survival hanging in the balance, can no longer provide. GM says it needs another $16.6 billion in federal loan guarantees, on top of the $13.4 billion it has already received from America's Treasury, to stave off bankruptcy.

After a painful restructuring in 2004 following several years of losses, GM Europe (which includes Opel, Vauxhall in Britain and Sweden's Saab) looked as though it had turned a corner. Competitive new Opel/Vauxhall models helped make it profitable in 2006, but as the market slowed, GM Europe's recovery stalled and then reversed. Production fell from 1.83m vehicles in 2007 to 1.55m last year, and losses increased from $524m to $2.8 billion. GM believes its European arm could run out of money as soon as next month.

On March 2nd GM Europe's boss, Carl-Peter Forster, presented a 180-page rescue plan for Opel to Germany's economics minister, Karl-Theodor zu Guttenberg. It calls for emergency loans of $4.2 billion from European governments, but most of the money would have to come from Germany, where the majority of GM Europe's 55,000 employees work.

To reassure political leaders that the funding will stay in Europe, GM proposes to place Opel into a legally separate holding company into which it will transfer about $3.8 billion-worth of non-cash items. Another $1.2 billion will be found from capacity reductions. Two of Opel's nine factories are thought to be especially vulnerable: Bochum in Germany and Antwerp in Belgium.

GM also hopes the new entity might attract outside investors. Mr Forster says GM is prepared to sell an equity stake in Opel of 25-50%. Fritz Henderson, GM's chief operating officer, went further on March 3rd, saying that GM might even be willing to cede control to save Opel.

But it is hard to see who might want to take up Mr Henderson's offer just now. Other carmakers are hoarding their cash, and financial investors will note that GM has ploughed $7.5 billion into Opel since 2001 for little return. Were the German government even to consider taking a stake in Opel, other German carmakers would cry foul. Daimler, BMW and Volkswagen said this week that they would tolerate only short-term bridging loans for Opel.

One possibility that would go down well with Opel's unions might be for a stake to go to Hesse, the state in which Opel has its Rüsselsheim headquarters. The precedent is the 20% shareholding that Lower Saxony still holds in Volkswagen. However, the "VW law" that gives the state a veto over important decisions is a controversial anachronism which both the European Commission and Porsche, VW's new owner, are determined to get rid of.

A measure of GM's desperation is that these options defy industrial logic. Opel is of critical importance to GM's future. Its products and engineering are tightly interwoven with all the company's other operations. Both the Epsilon 2 platform, used by the new Opel Insignia, and the Delta 2 platform, intended for the

next Astra, were developed at Rüsselsheim and will be used by almost every GM brand in future.

GM can do without Saab, which looks doomed (despite claims that there are several interested bidders). But without Opel, GM's strong position in the big emerging markets with the highest growth potential would be undermined. Without Opel, GM's promises to build a fleet of smaller and more fuel-efficient cars in North America would lack conviction. As for Opel, deprived of GM's scale, it would quickly wither and die.

Ford, which sees the highly rated products developed by its European arm as central to its recovery plans, is puzzled by GM's willingness to reduce its stake in Opel. One senior executive observed this week that it was "hard to imagine" how GM could both welcome other shareholders into Opel and also tie it tightly into the firm's operations and strategy.

But Ford is in a very different position from GM. Because it has not had to resort to government aid in America, which comes with many strings attached, Ford still has some freedom of manoeuvre. Ford of Europe is also much healthier than GM Europe, notching up a profit last year of $1.06 billion. Lewis Booth, who ran Ford of Europe before becoming Ford's finance chief last year, says that because the business was successfully "sized to demand" in 2000, the European operation was profitable from the end of 2003 until a few months ago. By contrast, GM Europe reckons it has 30% more capacity than it needs.

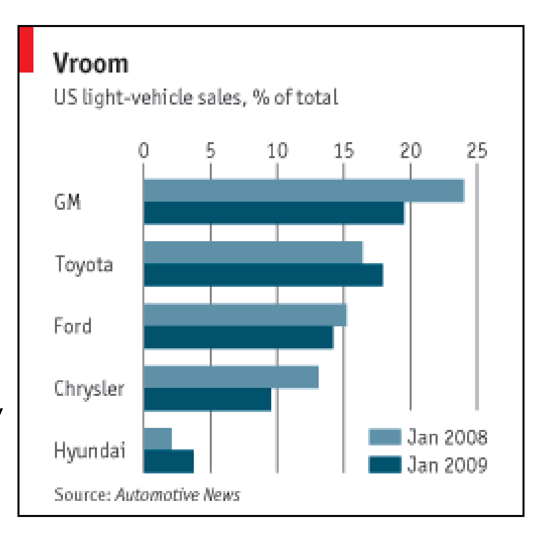
The German government will be very reluctant to allow Opel to fail before the general election in September. But beyond that its future is bleak. GM is powerless to help it. Even if Barack Obama decides to keep GM out of the bankruptcy courts for the time being, he will not stump up money for Opel. Nor does quasi-independence from GM seem a feasible option. If Opel closes, GM's own prospects, already uncertain, would be dealt a further blow. What began in 1929 could well end in 2009.

Hyundai's surprising success

Sui Genesis

Mar 5th 2009 | DETROIT
From The Economist print edition

Why the South Korean carmaker is doing well in the downturn



IT IS not just America's ailing carmakers that have been clobbered by the recession and the corresponding collapse in demand for new vehicles: every other carmaker is suffering, too. Even luxury marques such as Mercedes-Benz, Lexus and BMW, which are usually less affected by economic downturns, have reported plunging sales. All of which makes the achievements of South Korea's Hyundai particularly remarkable. It has managed to increase its car sales in America—they rose by 14% in January compared with a year earlier—and it has done so, in part, by moving into the luxury-car market.

The idea of a luxury Hyundai may sound like an oxymoron to many people, given the brand's low-cost image. Accordingly, the company took a relatively cautious approach to the launch of the Genesis saloon, its first luxury car, last year. So far it has been made available in only a few markets, including South Korea and America. Launching a new luxury vehicle in the midst of a recession seemed foolhardy, but Hyundai has benefited from consumers' desire to "trade down" in hard times. The Genesis, which starts at $32,250, costs around $13,500 less than a comparable BMW. John Krafcik, the boss of Hyundai's American arm, says his dealers are taking a sizeable number of more expensive luxury cars in part-exchange for the Genesis, notably the 5-series BMW.

Evidently Hyundai's marketing, which is based on head-to-head comparisons with luxury vehicles made by BMW, Lexus and others while emphasising the lower price, has struck a chord. The industry is also impressed. In January the Genesis was named North American Car of the Year, overcoming a crowded field that included the Audi A4, Jaguar XF and Cadillac CTS-V. Hyundai is about to launch a second model, the Genesis Coupe, one version of which will feature the Brembo brakes found in top-of-the-range Mercedes and Ferrari sports cars.

Joe Phillippi of AutoTrends Consulting is one of many analysts who believe that the Genesis is one of the main reasons why Hyundai is doing well: its market share in America has increased from 2.1% in January 2008 to 3.7% in January 2009, and the company is now gaining market share more quickly than any other carmaker in America. Besides the Genesis, Hyundai is also benefiting from a novel scheme, launched in January, in which it offers to buy back cars from customers who lose their jobs within a year of their purchase. (The company essentially offers a smaller discount and then uses the money to buy an insurance policy.) This has proved so successful in stimulating sales that General Motors said on March 3rd that it was considering a similar scheme.

Looking further ahead, Mr Krafcik talks of launching the Genesis in other markets, and perhaps even spinning off a separate Genesis brand, as Toyota did with Lexus. For Hyundai, the story of Genesis has got off to a good start.

Business in China

So much for capitalism

Mar 5th 2009 | HONG KONG
From The Economist print edition

The opening up of China's economy goes into reverse

FOR two decades, in the 1980s and 1990s, China pushed forward a series of economic reforms that came at a vast cost, exceeded only by their vaster rewards. Now, as the financial crisis sweeps across the world, those reforms are going into reverse. It is a sign of how hard governments find it to shake off the habit of ownership.

When China began to extract production from the hands of the state, big firms were broken up, reconfigured or closed. Ever so slowly, the government began to privatise its largest industries, selling slices of companies in public offerings on foreign exchanges, and making them adopt at least the pretence of modern governance.

How far China has gone in transforming its economy is a matter of debate. Unarguably, it remains a place where companies face heavy direct and indirect state control. But in places there has also been dramatic change, and China has prospered as broader economic freedoms contributed to growth. Outright criticism of the shift was muted, even among bureaucrats opposed to the new approach. But over the past year this reticence has begun to wane, as the crisis in the West has led to intense criticism of capitalism—and one domestic industry after another has, as in the West, gone back to the government for support.

In December China Investment Corporation, one of the country's many sovereign-wealth funds, acknowledged buying shares of Chinese banks on the open market. Other government-backed funds are thought to have been buying as well, which may explain why the banks' share prices have held up even as banks elsewhere totter. Meanwhile, the state-controlled China Development Bank is said to be negotiating a takeover of Shenzhen Development Bank, one of the few financial institutions controlled by foreigners.

It is a similar story in aviation. In the late 1980s the government created three gigantic carriers—Air China, China Eastern, and China Southern—to provide competition and service where there had previously been none. The carriers have succeeded in a limited way, dramatically expanding coverage across China, but management has undergone frequent shifts and none of the airlines has a good reputation. All three operate at a loss, and two of them, according to the Chinese state-run press, have received large capital injections from the central government in recent months. A broad, government-driven reorganisation is expected in the next 18 months.

Similarly, five big power-generation firms were split out of a single company in 2002 to foster competition. Any sense of true operating independence was badly undermined last year, however, when the government imposed price caps on electricity, even as the utilities grappled with rising coal and oil prices. Those prices have since fallen, but so has demand. On February 20th the Chinese press reported that the government was injecting $13 billion yuan ($1.8 billion) into the companies, indirectly boosting its stake.

Even China's car industry, which is alive with competitors, is coming further under the government umbrella. More than 10 billion yuan in subsidies is being paid to carmakers, and billions of yuan more are being granted to encourage car sales. Various deals are being mulled between Chinese firms and distressed foreign brands, and these too would need financial support from the government. Beyond that, Chinese newspapers report that a broad restructuring is in the offing, which would reorganise the industry into four state-controlled giants.

In the West the prospect of nationalisation causes companies' share prices to collapse, but the opposite often occurs in China, and share prices rise instead. In a state-controlled system, it is good to have the state's explicit endorsement and protection. But it comes at a cost. The reason China initially backed away from state control was because companies were inefficient and corrupt, and ultimately people suffered. In today's panic, perhaps, that is a secondary concern. But times will eventually change for nationalised firms in China—and for those in the West, too.

Barbie at 50

In the pink

Mar 5th 2009 | PARIS
From The Economist print edition

The versatile pink princess has moved with the times

Reuters


Mulling another career change

FROWNED upon by feminists but fought over by five-year-olds, Barbie has been a victim of controversy as much as fashion ever since her birth, 50 years ago this month. The charge-sheet against the pint-sized piece of plastic is long. She teaches the supremacy of looks over substance; she stereotypes outdated gender roles; she celebrates an impossible body ideal; and she spreads platinum hair, plastic limbs and a nauseating shade of pink into households from Honolulu to Hamburg.

Yet could it be that Barbie, far from being a relic from another era, is in fact a woman for our troubled economic times? For a start, she may benefit from having a strong, reassuring brand in a downturn. Although global Barbie sales fell by 9% in 2008, battering profits at Mattel, her maker, Barbie topped the 2008 survey by America’s National Retail Federation of the most popular girls’ toys, relegating even the Nintendo Wii to fifth place. And she has just seen off her hipper rivals, the Bratz. After a long legal battle, a federal judge recently ordered their maker, MGA, to transfer the trademark rights to Mattel. Barbie is once again the queen of the toyshop. In previous recessions toy sales held up reasonably well, as parents cut back elsewhere.

As the recession deepens, Barbie’s conservative values are also back in vogue. Amid concern about rampant individualism and excess, she evokes a simpler, gentler era. And since staying in is the new going out, little girls will have more time for old-fashioned play.

Barbie also embodies career flexibility, a valuable attribute in difficult times. Having starting out as a fashion model in a black-and-white striped bathing suit, she tiptoed into other professions as fast as they were invented. She was an air hostess in the 1960s as mass aviation took off, an aerobics instructor with leg-warmers in the 1980s, and even a black presidential candidate four years before Barack Obama. Time for a new Barbie, dressed as a distressed-debt investor?

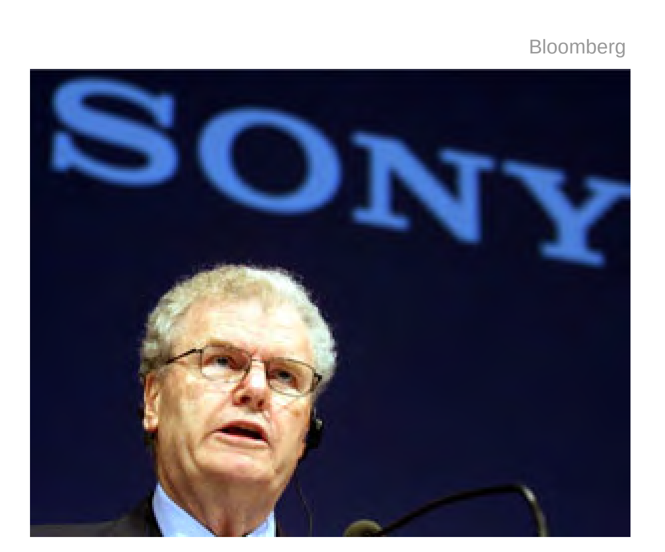
Face value

Game on

Mar 5th 2009
From The Economist print edition

Sir Howard Stringer believes he is finally in a position to fix Sony

Bloomberg



WHEN Akio Morita, Sony’s co-founder, gave the firm its name in the 1950s, he was afraid it could be mispronounced in Japanese as “son-en”, which means “to lose yen”. Little could he have imagined the problems that his eventual successor, Sir Howard Stringer, would face. The company that long dominated the field of consumer electronics, from the first pocket transistor radio to the Walkman and the PlayStation, is in trouble. Almost every product line is unprofitable. Sony expects to lose ¥260 billion (nearly $3 billion) when it reports its 2008 results, its first loss in 14 years. “What this recession has done is expose the weaknesses in our system that we didn’t want really to admit,” says Sir Howard in his sunny 20th-floor office overlooking Tokyo.

But the crisis is finally enabling him to shake things up at Sony, something he has been trying to do since his arrival as chairman and chief executive in 2005. In recent days Sir Howard has gently eased out the company’s president, Ryoji Chubachi, who was installed just before Sir Howard’s own appointment, and who has stymied his restructuring efforts. Sir Howard has also appointed four young, loyal lieutenants—whom he dubs “the Four Musketeers”—to lead Sony’s newly reorganised business units, further tightening his grip on the company.

This being Japan, where even sudden change happens slowly, the reforms will not take effect until April 1st. But the overhaul is long overdue. Sony’s music-player business has been crushed by Apple’s iPod and iPhone, and its mobile-phone unit, Sony Ericsson, has suffered as the handset market has polarised between cheap models and advanced “smart” phones. Sony is the world’s second-largest LCD television-maker, but for five years has made a loss on every set it has sold. Its video-game division, which used to dominate the field and sustain the rest of the company, is expected to make a loss in 2008. (Sony’s rival Nintendo, by contrast, the maker of the Wii console that has far outsold Sony’s expensive PlayStation 3, is expected to make a profit of ¥530 billion.)

Sir Howard has encountered strong internal resistance in his efforts to turn Sony around, but he cannot escape blame for its woes. He acknowledges that he failed to press for bigger changes at the outset, while he sought allies. And he sent the wrong signals early on: in his first three years, Sir Howard spent only half of each month in Tokyo, and stayed at a hotel rather than a permanent residence. “The core of Sony’s problem is in Japan, but Sir Howard is not,” complained his critics. He now says he will spend three weeks of each month at the headquarters in Tokyo.

Affable and unguarded, Sir Howard does not fit the stereotype of a Western corporate boss, let alone a Japanese one. Born in Cardiff, Wales, he squeezed into steerage aboard the *SS United States* in 1965, at

the age of 22, and arrived in New York for “some excitement” with just a Green Card (residency permit) and $200. After working for a few months as a clerk at CBS, a big broadcaster, he was drafted to serve in Vietnam by dint of that Green Card. (“I hadn’t been in America long enough to die for it,” he joked to his comrades, who took the oddly accented fellow under their wing.) He was shot at, earned a medal and returned to CBS.

As a news producer he won ten individual Emmy Awards, and eventually rose to become president of CBS News, and finally of the network itself in 1988 (becoming an American citizen to comply with federal broadcasting laws). Sir Howard left CBS in 1995 to run a video-on-demand company, Tele-TV, that was backed by big American telecoms companies but was ahead of its time. He joined Sony in 1997 and quickly rose to run its American operations. He received his knighthood in 1999.

Sir Howard became Sony’s chief executive in June 2005 after the company had made a series of stumbles. Foreigners are often used to shake things up in Japan, where a Japanese boss might be too cautious, deferential and slow. Sir Howard tried to revamp Sony as best he could, shutting vanity projects that lacked a market, including a unit that produced a robotic dog. But he was never given the remit to make really radical changes—unlike Carlos Ghosn, the Brazilian boss who saved Nissan from bankruptcy.

Crisis and opportunity

Now Sir Howard has the control he feels he needs. “When this crisis came along, for me it was a godsend, because I could reorganise the company without having to battle the forces of the status quo,” he says. He has reorganised Sony into two groups, one based around networked media products (games, computers, music-players, new mobile products and related services) and the other encompassing televisions, cameras and components. Crucially, the restructuring means that software development and procurement will be wrested from individual product groups and centralised, quashing their “silo” mentality—something Sir Howard has long been trying to accomplish.

The reforms go deeper. Sony will cut around 16,000 employees, including full-time workers who had counted on lifetime employment. It also will close up to six of its 57 factories around the world. Sony expects all this to save around $2.5 billion a year. It has been too slow to move its operations to where its customers are. Around half of its products by value are made in Japan, but only 15% of its electronics sales are domestic. The strength of the yen, which soared during 2008, is debilitating.

Sir Howard says Sony is open to making deals to bring in new ideas and technologies or to shed underperforming businesses. “The issue of cutting costs, laying off people and closing factories, and the like, is very difficult,” he says. “I’ve got to respect the country that I’m in—but I will push them as far as I can.” The big question now, assuming that Sir Howard is finally in a position to make radical changes, is whether he will be able to make them quickly enough to save Sony, and himself. The next year will be his final toss of the dice. If he is unable to overhaul the company, the next head to roll will be his.

Carbon capture and storage

Trouble in store

Mar 5th 2009
From The Economist print edition

Politicians are pinning their hopes for delivery from global warming on a technology that is not quite airtight

Illustration by Belle Mellor



A RECENT American television advertisement features a series of trustworthy-looking individuals affirming their faith in the potential of "clean coal". One by one, a sensible old lady in a hat, a lab-coated scientist standing by a microscope, a fresh-faced young schoolteacher, a weather-beaten farmer and a can-do machinist face the camera square-on and declare, "I believe."

The idea that clean coal, or to be more specific, a technology known as carbon capture and storage (CCS), will save the world from global warming has become something of an article of faith among policymakers too. CCS features prominently in all the main blueprints for reducing greenhouse-gas emissions. The Stern Review, a celebrated report on the economics of climate change, considers it "essential". It provides one of the seven tranches of emissions cuts proposed by Robert Socolow of Princeton University. The International Energy Agency (IEA) reckons the world will need over 200 power plants equipped with CCS by 2030 to limit the rise in average global temperatures to about 3°C—a bigger increase than many scientists would like.

Politicians have duly lined up behind the idea. Barack Obama talked up CCS during last year's election. Gordon Brown, Britain's prime minister, has said the technology is necessary "if we are to have any chance of meeting our global climate goals". The leaders of the G8, a rich-country club, want it to be widespread by 2020.

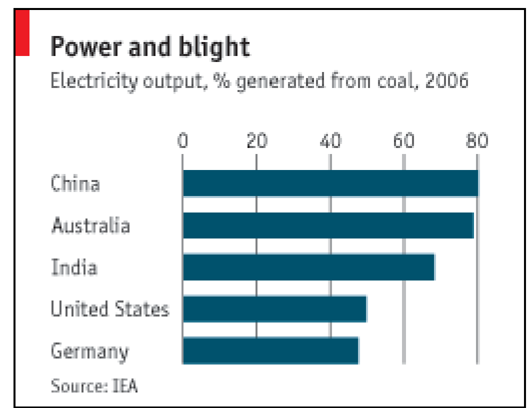
Despite all this enthusiasm, however, there is not a single big power plant using CCS anywhere in the world. Utilities refuse to build any, since the technology is expensive and unproven. Advocates insist that the price will come down with time and experience, but it is hard to say by how much, or who should bear the extra cost in the meantime. Green pressure groups worry that captured carbon will eventually

leak. In short, the world's leaders are counting on a fix for climate change that is at best uncertain and at worst unworkable.

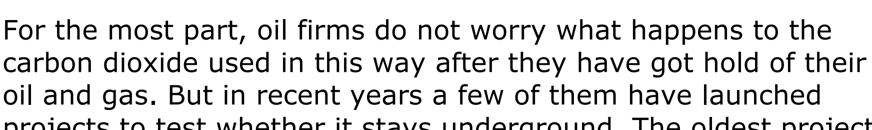
CCS sounds beguilingly simple. It entails isolating carbon dioxide wherever it is produced in large quantities, such as the smokestacks of coal-fired power plants, compressing it and pumping it underground. The oil and chemical industries already use most of the processes that this involves, although not in combination. And oil, gas and salt water seem to stay put in certain rock formations indefinitely, suggesting that carbon dioxide should as well.

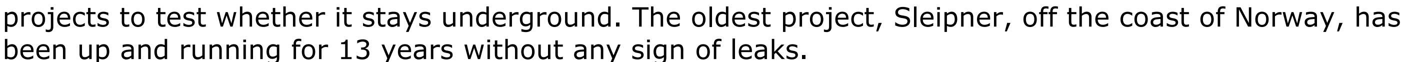
CCS particularly appeals to politicians reluctant to limit the use of coal. Coal is the dirtiest of fossil fuels, and burning it releases roughly twice as much carbon dioxide as burning natural gas. The world will struggle to cut greenhouse-gas emissions dramatically if it continues to burn coal as it does today. Yet burning coal is one of the cheapest ways to generate power. In America, Australia, China, Germany and India coal provides half or more of the power supply and lots of jobs (see chart). Rejecting cheap, indigenous fuel for job cuts and international energy markets is seen, naturally enough, as political suicide. CCS offers a way out of this impasse.

In a purely technical sense, CCS looks promising. There are several proven ways to isolate carbon dioxide from fossil fuels, using a variety of combustion techniques and an assortment of chemical "scrubbers" to react with the gas. Oil firms, meanwhile, have long experience of pumping carbon dioxide into reservoirs to increase their pressure and thus squeeze out more fuel. To that end, Exxon Mobil runs the world's biggest carbon-capture facility, at La Barge, Wyoming. America boasts a network of 5,800km (3,600 miles) of pipes to carry carbon dioxide from such facilities to the oil- and gasfields where it is needed.



For the most part, oil firms do not worry what happens to the carbon dioxide used in this way after they have got hold of their oil and gas. But in recent years a few of them have launched projects to test whether it stays underground. The oldest project, Sleipner, off the coast of Norway, has been up and running for 13 years without any sign of leaks.





Last year Vattenfall, a Swedish utility, opened the first power plant to incorporate CCS at Schwarze Pumpe, in Germany. It is only a pilot project, less than a twentieth of the size of most modern coal-fired plants. But so far, Vattenfall says, it is working fine. Several other firms hope to start pilot plants on a similar scale this year.

Money for nothing

The problem with CCS is the cost. The chemical steps in the capture consume energy, as do the compression and transport of the carbon dioxide. That will use up a quarter or more of the output of a power station fitted with CCS, according to most estimates. So plants with CCS will need to be at least a third bigger than normal ones to generate the same net amount of power, and will also consume at least a third more fuel. In addition, there is the extra expense of building the capture plant and the injection pipelines. If the storage site is far from the power plant, yet more energy will be needed to move the carbon dioxide.

Estimates of the total cost vary widely. America's government, which had vowed to build a prototype plant called FutureGen in partnership with several big resources firms, scrapped the project last year after the projected cost rose to $1.8 billion. Philippe Paelinck, of Alstom, an engineering firm that hopes to build CCS plants, thinks a full-scale one would cost about €1 billion ($1.3 billion).

In 2005 the Intergovernmental Panel on Climate Change, a group of scientists that advises the United Nations on global warming, came up with a range of $14-91 for each tonne of emissions avoided through CCS. Last year, the IEA suggested that the price for the first big plants would be $40-90. McKinsey, a consultancy, has arrived at an estimate of €60-90, or $75-115.

Either way, that is more than the price of emissions in the European Union: about €10 a tonne. America does not have a carbon price at all yet. A bill defeated last year in the Senate would have yielded a carbon price as low as $30 in 2020, according to an official analysis. So CCS might not be financially

worthwhile for years to come.

Analysts assume that the price of emissions will rise, as governments impose tighter restrictions, and that the price of CCS will fall, as engineers learn how to do it more cheaply. The IEA, for example, predicts CCS will cost just $35-60 per tonne of emissions reductions by 2030. McKinsey foresees a price of €30-45 when the technology is mature, some time after 2030.

Fingers crossed

But these estimates entail some generous assumptions. McKinsey, for example, imagines that CCS plants will break down no more often than normal coal plants, despite their more complicated machinery. It assumes that the average cost of capital for CCS plants will be no more than 8%. And it projects that costs will fall by 12% for every doubling in capacity. That is roughly the same rate as for wind power, even though most of the processes in CCS are already widely used in other industries, suggesting that the scope for improvement is slender.

Greenpeace, a pressure group, argues that it is impossible to be certain that carbon dioxide will not eventually leak out of the ground. Carbon dioxide forms an acid when it dissolves in water. This acid can react with minerals to form carbonates, locking away the carbon in a relatively inert state. But it can also eat through the man-made seals or geological strata intended to keep it in place. A leakage rate of just 1% a year, Greenpeace points out, would lead to 63% of the carbon dioxide stored in any given reservoir being released within 100 years, almost entirely undoing the supposed environmental benefit.

Spills would also be a health risk, since carbon dioxide is heavier than air, and so can build up in low-lying or poorly ventilated spots. Earlier this year, Zurich Financial Services said it would offer insurance for CCS plants and storage sites while they were operating, and for a limited time thereafter. But CCS advocates all assume that governments will eventually take charge of reservoirs, along with all the monitoring costs and legal liabilities. America's lawmakers went a step further, and agreed to insure the proposed FutureGen plant and to indemnify the firms behind it from all lawsuits arising from leaks.

Illustration by Belle Mellor



Last year the EU passed a law requiring its members to draw up rules for CCS. In theory these should be in place within two years, although such deadlines often pass unmet. At a minimum, governments are supposed to lay down criteria for selecting storage sites and to set standards for monitoring, financial guarantees, safety and so on. If the safety regulations require stored carbon dioxide to be pure, for example, they would add to the cost of CCS, points out Anthony Hobley, of Norton Rose, a law firm. Meanwhile, those considering CCS plants in poor countries cannot earn UN-backed carbon credits, since the Kyoto protocol, the UN's treaty on climate change, makes no provision for the technology.

All this uncertainty and expense has doubtless put off utilities. Omar Abbosh, of Accenture, a consultancy, says that carbon trading as practised in the EU and contemplated in America does not give enough certainty about future carbon prices to justify an investment in a CCS plant. Mr Paelinck of Alstom agrees: no board would risk spending €1 billion on one, he says, without generous subsidies.

Statoil Hydro, the Norwegian firm behind the Sleipner project, says that even with Norway's heavy carbon tax, which last summer reached over €40 a tonne, CCS does not make financial sense. Hydrogen Energy International, a joint venture between two big resource firms, Rio Tinto and BP, says that its proposed CCS plant in California will need extra subsidies, even though the state is imposing a carbon price and the project will earn revenues from enhanced oil recovery.

Many governments are offering lavish handouts. America's stimulus bill set aside $3.4 billion for CCS. Earlier this year the EU proposed spending €1.25 billion on a few demonstration plants. It has also said it will give some 300m emissions permits, now worth around €3 billion, to the operators of CCS plants. Australia, Britain and Norway, among others, also plan to help pay for CCS projects.

Yet CCS's expected advent keeps receding. FutureGen was scheduled for 2012, but has now been scrapped in favour of several smaller projects that have yet to be selected. Britain's subsidised plant has suffered repeated delays. In 2007 the IEA called for 20 plants to be under way by 2010—a goal that seems certain to be missed. CCS's boosters now talk of the first full-scale plant being ready by 2015 or so.

Al Gore, America's green conscience, does not see CCS working commercially "in the near term or even the medium term". Sam Laidlaw, the boss of Centrica, a British utility, thinks it will take at least 15 years, and probably 20, to roll out CCS plants in large numbers. By contrast, Centrica is keen to invest in nuclear plants right away, without any subsidy. Greenpeace argues that CCS will never be competitive, since other low-carbon technologies, such as wind power, are already cheaper and becoming more so as time passes. It is hard to square these views with the G8's ambition for widespread CCS by 2020, or the IEA's call for 200 plants by 2030.

Some sceptics feel so strongly they have started airing advertisements of their own to lambast CCS. In one of them, an engineer with a hard hat and a clipboard promises a tour of a "state-of-the-art clean-coal facility". He pushes open a factory door to reveal a patch of barren scrubland; the factory, it turns out, is just a façade. "Amazing!" he shouts, gesturing at the empty space. It is a fairly accurate portrait. For the moment, at least, CCS is mostly hot air.

Stockmarkets and dividends

Slash and burn

Mar 5th 2009
From The Economist print edition

Stockmarkets grapple with savage reductions in companies' dividends

Illustration by Claudio Munoz



IT FELT like death by a thousand cuts. Already this month has seen plenty to rattle stockmarkets, from dreadful economic news to the continuing bloodshed at American International Group, an insurer. Commodity firms were given a reprieve on March 4th by hopes of a big stimulus package in China—though all they got was reaffirmation of the country's 8% growth target. Meanwhile, a new fear haunts the markets: the mounting number of firms slashing their dividends.

That banks and insurance companies will chop their payments is now understood, but the pain has spread. General Electric (GE) has cut its dividend for the first time in 71 years, Dow Chemical for the first time since 1912. In Europe previously reliable payers like Telecom Italia and Anglo-American, a mining firm, have reduced their payouts, and even BP has said it cannot increase its dividend at today's oil prices. Income investors were left to ponder Eurotunnel, the operator of the rail link between France and Britain, which will pay the first dividend since its creation in 1986. Its $9m may buy a few tissues for those mourning the loss of $9 billion of annual payouts from GE alone.

Based on experience since the second world war, investors had cause to be more optimistic. Although stock prices and earnings move up and down violently, dividends have been more reliable, typically falling from the peak of a cycle to its trough by only one-tenth in real terms. Furthermore, the share of American earnings paid out as dividends has declined from a post-war peak of almost two-thirds to about one-third in 2007, with many firms preferring stock buybacks (which have now ground to a halt). That should have given companies a bigger buffer.

Unfortunately other structural trends worked against income-lovers. Firms' debt levels rose, increasing the volatility of earnings. And the quality of the profits fell. Financial companies contributed about one-third of the $736 billion of dividends paid globally by quoted firms in 2007. Standard & Poor's, a rating agency, reckons that dividends in America could fall by about a quarter this year—the steepest drop since 1938. Even this may understate the decline. Financial firms' payouts will collapse—even relatively well capitalised banks like JPMorgan Chase have reduced their dividends. And more of the industrial firms that make up the other two-thirds of total dividends will cut too. Pessimists point to 1931-35, when dividends per share in America fell by 45% from peak to trough.

For many firms dividend cuts are an unpleasant task that should not be shirked. There is no point in starving a business and endangering a firm's balance-sheet in order to meet macho dividend commitments. The counter-argument, that cuts remove an important discipline on managers, hardly holds true today, when all firms are counting the pennies. That being so, when firms announced cuts why did their share prices slump? The reason has a lot to do with signalling.

A share's value must be the present value of all future dividends—otherwise stockmarkets would be a giant Ponzi scheme. But in theory shareholders should not care whether dividends are paid out today or later. Just as taking money out of a cash machine does not make you richer, nor does extracting cash from a firm you own. Investors who need income to meet pension payments, for example, can raise it just as well by selling a small part of their holdings instead of receiving dividends. It is true that dividends, rather than capital appreciation, have provided a big chunk of long-term equity returns. But this partly reflects the choice of firms to pay out a big chunk of their earnings. Had they paid out less, capital appreciation would, in theory, have been commensurately higher.

The main reason why investors are worried is that dividends are a guide to managers' views of when earnings might reach their trough: they do not want to pay the dividend out of borrowing, or worse, cut it again. Occasionally this floor is breached—in 1933 American earnings per share dropped below dividends. Today, GE has cut its quarterly dividend from 31 cents per share to ten cents. That is partly to reduce gearing, but also suggests managers' low confidence in analysts' forecasts for earnings of about 30 cents. Likewise if American dividends fall by a third from their recent peak, then—assuming they set a floor for profits—earnings would bottom out at about two-thirds below the level of 2007. That would be a drop on a par with the 1930s and far below most forecasts. An overblown scenario perhaps, but the scare over dividends suggests that many investors are still too optimistic.

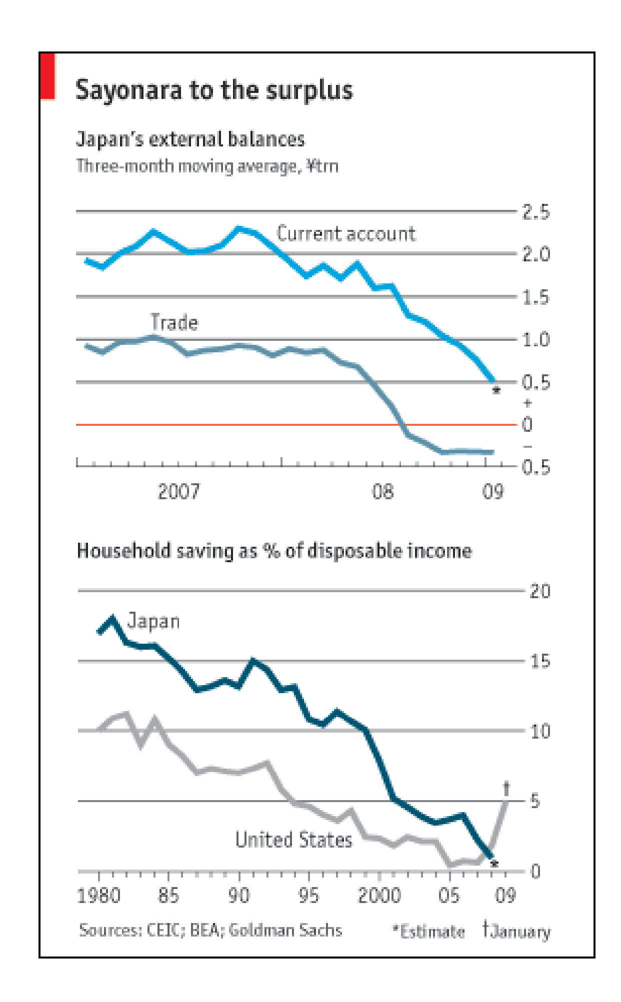
Japan's economy

Rebalancing act

Mar 5th 2009
From The Economist print edition

A long era of current-account surpluses may be ending

JAPANESE households used to be among the world's biggest savers and, as a result, the country ran a massive trade surplus. But no longer. They now save less of their income than American households, and Japan's trade balance moved into deficit last year (see top chart). A long-overdue—and painful—economic rebalancing is under way.



The slump in global demand and a strengthening yen have crushed Japan's exports. In the six months to January, it had an annualised trade deficit of ¥4 trillion ($39 billion), compared with a surplus of almost ¥11 trillion a year earlier. Japan's foreign-investment income is also shrinking, thanks to lower dividends and interest rates. As a result, its total current-account surplus plunged to only ¥125 billion in December, 92% less than a year ago. Figures due on March 9th may even show a deficit in January. Most economists still expect a surplus for the year as a whole, but a much reduced one of perhaps 1% of GDP, down from a peak of 4.8% in 2007.

Japan has had a current-account surplus in every year since 1981, because of a surfeit of domestic saving over investment. However, the saving rate of households has fallen from 18% of income in 1980 to an estimated 1% last year (see bottom chart). It may have edged up slightly over the past few months, but it is almost certainly lower than in America, where the saving rate jumped to 5% in January as falling wealth and tighter credit caused consumers to pull back.

The fall in saving is exactly what the "life-cycle hypothesis" would predict. People like to smooth consumption over their lifetimes, so during their working years they spend less than they earn and

accumulate wealth, which they then draw down once they retire. The more retired folk there are relative to the number of workers, the lower the saving rate will be. The ratio of Japanese aged over 65 to those of working age rose from 14% in 1980 to an estimated 34% in 2008. It is forecast to increase to 49% by 2020.

The decline in the household saving rate and the current-account surplus would seem to be connected. But Japan's saving rate has been falling for years, so why did the external surplus still loom large until last year? The current-account balance is the gap between domestic investment and total saving—including that by companies and the government as well as households. Since 1990 Japanese firms have swung from being big borrowers to big savers as they have sought to repay debts. A large reduction in the government's budget deficit, from 8% of GDP in 2003 to 2% in 2007, also offset lower household saving. Meanwhile, since 1990, investment has fallen from 32% to 23% of GDP. As a result, the surplus of saving over investment remained large until recently.

As the population continues to age, household saving will decline further and may even go negative as the retired live off their large stash of financial assets. If investment rates do not change, Japan will move into current-account deficit.

Japan's excess saving has long been viewed as bad for its own economic health as well as for the rest of the world, so its disappearance might seem good news. It would be if the shrinking surplus had been caused by a surge in domestic spending, rather than a collapse in exports.

Despite some pick-up in consumption in recent years, Japan's growth has still been far too dependent on exports. Net exports accounted for over one-third of GDP growth in the five years to 2007. Adding in exporters' investment might push up that figure to half. Japan's failure to wean itself off exports sooner means that it now faces a more painful adjustment. The impact on the rest of the world, meanwhile, will not be nearly as beneficial as the headline figures suggest.

HSBC's rights issue

Household chores

Mar 5th 2009
From The Economist print edition

Is HSBC's $17.7 billion rights issue a sign of weakness or of strength?

THERE are two radically different tales doing the rounds about HSBC, Europe's biggest lender by market value. The first says that HSBC, deep down, is still an emerging-markets operation run by rugged types who disdain the sorcery of modern finance. Under the temporary grip of an evil spell in 2003 they bought Household, an American consumer-credit firm that then haemorrhaged losses. On March 2nd they snapped out of it. HSBC's chairman acknowledged that it was "an acquisition we wish we had not undertaken", wrote off its cost and promised to run down its book of dodgy loans. Having opened its heart, HSBC felt able to lower its dividend and raise its core tier-one capital ratio to 8.5%, above those of JPMorgan Chase (6.4%) and Santander (7.2%), two more of the Western world's biggest banks also vying for the title of the safest one.

Against this there is a horror story. It says that HSBC's definition of capital excludes mark-to-market losses on asset-backed securities (ABS). Furthermore, particularly demanding critics say that it also excludes mark-to-market losses on its loan book. Like almost all banks, HSBC carries these at book value and impairs as customers default. However, include both these items and the core tier-one ratio would drop to just 2%. Treating loan books on the same basis, JPMorgan would be at 5% and many other banks would be insolvent.

This would suggest that HSBC is in fact poorly capitalised, and needs to raise even more equity. The alternative, advocated by, among others, Knight Vinke, an activist investor, would be to cut loose Household, which HSBC does not legally guarantee and which accounts for just over half of the additional mark-to-market losses. Household's credit spreads are much higher than HSBC's, suggesting that investors think this is possible, despite HSBC's verbal assurances to the contrary.

Which story is right? Given the risk of litigation, the reputational hit and the fact that HSBC has itself loaned Household some $13.5 billion, its mark-to-market loss would have to get a lot worse before HSBC was prepared to let it default. And like many banks, HSBC argues that there is at least some chance mark-to-market losses overstate the ultimate impairments it will face. The ABS loss has been very volatile, doubling in six months and stands at ten times HSBC's "stress test" estimate of the probable hit. The mark-to-market loss on Household's loan book is double what optimistic analysts think the likely ultimate impairment will be.

Pleading that fair-value accounting is cruel is hardly unique, but what makes HSBC's position more credible than most is that it has the capacity to wait and see. Its funding position is excellent with deposits exceeding loans, reducing its dependence on wholesale markets. And the core business continues to generate lots of pre-provision earnings. If spread out over several years, the bank could absorb the hit from Household implied by the mark to-market valuation without damaging its capital.

Indeed the real moral of the tale is different. Compared with other banks HSBC is protected by its big deposit base and its profitability. It looks therefore as if investors will back the rights issue. Others do not have even that comfort.

Buttonwood

The grand illusion

Mar 5th 2009
From The Economist print edition

How efficient-market theory has been proved both wrong and right

Illustration by S. Kambayashi



THE past ten years have dealt a series of blows to efficient-market theory, the idea that asset prices accurately reflect all available information. In the late 1990s dotcom companies with no profits and barely any earnings were valued in billions of dollars; and in 2006 investors massively underestimated the risks in bundling together portfolios of American subprime mortgages.

There is now widespread acceptance that investors can behave irrationally, creating very large anomalies. Take the momentum effect, the practice of buying the stockmarket's best performers over the previous time period. A study by the London Business School found that, since 1900, buying British stocks with the best momentum would have turned £1 into £1.95m (before costs and tax) by the end of last year; the same sum invested in the worst performers would have grown to just £31. In efficient markets, such an anomaly should be arbitraged away.

Belief in efficient-market theory made the authorities reluctant to restrain either the dotcom or the housing and credit bubbles. Perversely, the result has been much greater state interference in the markets than was dreamed of ten years ago, with commercial banks being nationalised or subsidised, and central banks acting as a buyer of last resort for financial assets.

But it is important not to throw out all the insights of efficient-market enthusiasts. Although it is theoretically possible to make money by outperforming the markets, it is extremely difficult in practice. That ought to have made investors suspicious of the smoothness of the returns of Bernard Madoff, who has been accused of a vast fraud. His strategy, as advertised, might have produced less volatile returns than the index, but the absence of negative months suggested almost perfect market timing.

Some fund managers have beaten the markets over long periods. The problem is to identify them in advance. Picking them after they have outperformed may be too late, as those who backed Legg Mason's Bill Miller have recently discovered. Why is this? Fund managers are human too and subject to behavioural biases. In addition, the larger their funds become (as their reputation spreads), the more difficult it is to outperform.

The temptation has also been to assume that fees are positively correlated with performance—that if mutual fund managers charging 1.5% are good, hedge-fund managers charging 2% (and 20% of performance) are even better. Because investors cannot beat the market in aggregate, all this means is that money is transferred from investors to fund managers. Even David Swensen, the man who led the drive into alternative assets at Yale University, thinks most investors should rely on low-cost index-tracking funds.

But perhaps the area where the efficient-market hypothesis should have had greater weight is at banks. Many lament the demise of old-style banking, the "three-six-three" model where bankers borrowed money at 3%, lent it at 6% and were on the golf course at 3pm. That model broke down because markets were fairly efficient; the margins on lending to corporations became too low.

So banks were attracted to the higher-margin business of investment banking. Commercial banks could use their capital to back up their advisory operations and outmuscle old-style investment banks. The latter duly abandoned the partnership structure and raised money on the stockmarket, or were bought by commercial banks. The same logic required new trading desks to handle the banks' positions, and those desks quickly became profit centres of their own.

But how were those trading desks making money? Perhaps they were exploiting information gathered by the rest of the group, a tactic that, if not illegal, put them in conflict with their clients. Or they were taking advantage of an artificially low cost of capital. With commercial banks, that cost was low because of the implicit public subsidy provided by deposit guarantees. Without such guarantees, savers would have wanted higher interest rates from banks with trading arms to reflect the risk of a market-related loss. In the good years, when they randomly beat the market, the traders earned bonuses. In the bad years, the taxpayers have picked up the bill.

And that raises a fundamental question. If regulators thought markets were too efficient to interfere with, how come they allowed banks to get involved in an activity which, after bonuses, was a game they collectively could not win?

Buttonwood now writes a blog, which is open to comment at Economist.com/blogs/buttonwood

Euro-zone government bonds

Beating the rush

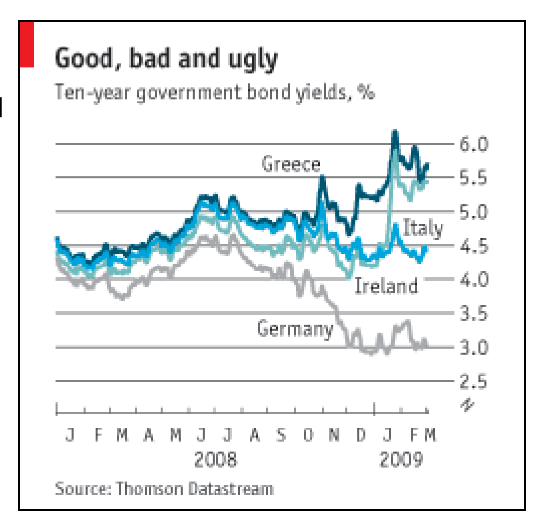
Mar 5th 2009
From The Economist print edition

Riskier countries have already raised a big chunk of their borrowing needs this year—but at a price

WHEN Otis Redding sang "You don't miss your water 'til your well runs dry" he was unlikely to have been thinking of public-debt markets. Yet the song's warning not to take anything for granted is one that sovereign borrowers understand. This year will be a record one for government-bond issuance, and some countries fret that they may be elbowed aside in the rush to the well. America alone will borrow $1.75 trillion in fiscal 2009, according to its draft budget. Rich European countries may need up to $1 trillion to cover their budget deficits and bank bail-outs. Banks hawking state-guaranteed paper only increase the congestion in bond markets.

As the only sovereign issuer of the world's reserve currency, America's federal government is first in the queue for savings. The situation is trickier in the euro zone. It has 16 competing sovereign issuers. Angela Merkel, Germany's chancellor, called for countries to co-ordinate their bond issuance after two auctions for German Bunds failed to raise as much money as hoped. The nightmare for Eurocrats is that one of the less creditworthy countries, such as Greece or Ireland, may one day have a similar problem. Investors charge a big premium to hold Greek and Irish bonds; the yield gap with Bunds has widened in the crisis (see chart). That partly reflects rising fears of default. To allay such fears, Joaquín Almunia, the European Union's economics commissioner, said this week there was a "solution" in place for euro-zone members that run into trouble.

Despite all the fuss, less favoured euro-zone borrowers have been far from shunned by the bond market. On March 4th Greece raised €7.5 billion ($9.4 billion) through an issue of ten-year bonds, adding to the €12.5 billion it pocketed from sales of three-year and five-year bonds earlier. Its government has now raised close to half of its estimated funding needs for this year, including the refinancing of maturing debt. Ireland is not far behind: it has sold €10 billion of bonds out of a gross borrowing requirement of around €25 billion.



How have Greece and Ireland succeeded where others have seemingly failed? Germany's bond-market mishaps reflect the rigidities of the auction process rather than a lack of demand for its bonds. In an auction the government offers its primary dealers a fixed amount of bonds for sale on a set day. If too few dealers bid for bonds at the right price on that particular day, the auction is uncovered and deemed a failure. That happens more often now because dealers, many of them struggling banks, are less willing to bid freely at auction in case the purchased bonds lose their value before they can be sold on to investors.

A failed auction is hardly a tragedy for a sound borrower like Germany, says Harvinder Sian at the Royal Bank of Scotland. It can always sell the bonds directly into the secondary market, and regularly does so. But Greece and Ireland may not be treated so kindly, which is why their recent issues have been through a syndicate. This route offers more certainty of success than an auction. Banks are asked to raise a sum of money; the lead managers take the market's temperature and advise about the yield and maturity investors want. The process takes more time and allows for more feedback than an auction. It helps tailor bond supply to demand.

Even so, success for riskier borrowers has come at a price. The coupon on Greece's new ten-year bond is 6%, double the yield on a comparable Bund. Ireland's offerings this year had coupons of just over 4%, a high charge for such short-dated debt. Yet it is probably worthwhile to get a toehold in a congested market. Once a bond issue has been launched, it is easier to sell a smaller tranche of it by auction, says

Chris Tuffey at Credit Suisse. Front-loading borrowing is wise if there is a risk that markets become yet more picky about whom they lend to. Best to be liquid in case the well runs dry.

Corporate bankruptcy

Burning down the house

Mar 5th 2009
From The Economist print edition

Why credit-default swaps make restructuring harder to pull off

LYONDELLBASELL, the world’s third-largest petrochemicals producer, should have “Danger, inflammable substance” signs posted on its debt. Its struggle against insolvency is a cautionary tale in the era of credit derivatives. As defaults soar, it is one of the first big firms to have its restructuring complicated by holders of credit-default swaps (CDSs). It is unlikely to be the last.

Last month the company’s European arm missed an interest payment. Its woes, however, began much earlier. In the heady days of 2007 Basell, headquartered in the Netherlands, bought its American rival Lyondell in a $19 billion deal, all financed with debt. Leveraged buy-outs usually take place in stable industries. The petrochemicals industry is cyclical, but caution was in short supply as the buy-out cycle neared its end. Then came the commodities boom, which made LyondellBasell’s feedstock more expensive. After the bust it had $26 billion of debt. In early January its American unit filed for Chapter 11 protection.

Now, ominously, some creditors would like to see the European parent default as well. The firm has obtained a temporary restraining order to prevent them from making claims against the European parent. It secured a grace period, and now has less than a month to make the missed interest payment.

The cause of this turn of events is the proliferation of CDSs on the company’s debt. A CDS works like a fire-insurance policy: the holder pays a regular premium, but if the house burns down there is a big payoff. With CDSs, the payoff is triggered by a default—and filing for Chapter 11 did indeed trigger some CDSs. Now other CDS holders would like to see a default in Europe, to provoke a payout. Unsecured creditors who hold CDSs might prefer default to a lengthy restructuring: to them, the insurance policy is worth more than the house.

But there are good reasons to keep the European operations out of insolvency while the company restructures in America, says Mark Hyde, a specialist in cross-border restructuring at Clifford Chance, a law firm. Bankruptcy proceedings in Europe are messy, and merely to avoid the tangle of multiple jurisdictions is appealing. By contrast, America’s Chapter 11 has the advantage of enabling the firm to obtain “debtor-in-possession” financing, which is senior to all other types of capital. New creditors are therefore willing to step in and fund operations while restructuring takes place. The firm has received a DIP loan of $8 billion, the largest on record. That is a red, gasoline-soaked, rag to CDS holders.

India's economy

Bridges to somewhere

Mar 5th 2009 | GURGAON
From The Economist print edition

The slowdown puts the onus on the government to start rebuilding India's rickety infrastructure

AP



There is no escape, even in Gurgaon

IN 1571 the Mughal emperor Akbar moved his court from Agra to Fatehpur Sikri, where he built a sandstone palace in the middle of nowhere. In the 1980s a similar urge gripped K.P. Singh, chairman of DLF, India's biggest developer. His father-in-law had built 23 neighbourhoods in Delhi. Mr Singh started work on a new city ten miles away, in the wheat fields of Gurgaon.

Nowhere in India embodies the country's aspirations as starkly as the town he founded. DLF's concoction has attracted copycat developers and almost 150 of the world's *Fortune* 500 companies. In the Aralias, the city's most exclusive apartment block, 6,000 square feet can cost up to 100m rupees ($2m). That buys a view of Gurgaon's golf course, judged India's best, where members stir their fresh lime sodas with swizzle sticks shaped like long irons.

But just as Fatehpur Sikri was eventually abandoned for lack of water, so some of Gurgaon's developers are suffering from a lack of liquidity. Even DLF has suspended construction of 12m square feet of office-space across India and 4m square feet of retail space. Rajeev Talwar, the group's executive director, says it may also slow down some residential projects.

Reactions like this are taking their toll on India's economy. Output grew by 5.3% in the fourth quarter of 2008, compared with the same quarter a year ago, its slowest pace for four years. The figure was well below expectations. On March 4th the Reserve Bank of India (RBI) responded by cutting its rates by half a percentage point, on top of the 3.5 points cut since October.

India had felt one step removed from the global slowdown. Compared with its neighbours in Asia, it relies little on exports, which amount to only 21.2% of GDP. And it relies less than the overstretched economies of eastern Europe on foreign capital: its gross saving rate reached 37.7% of GDP in the past fiscal year.

But India does not mobilise its saving well. Households account for almost two-thirds of it. But they put more than half of their spare funds into physical assets, such as homes, rather than the financial system. Of the remainder, 11% is held in cash and 55% is deposited in the banks, which are now lending almost a third of their deposits to the government.

Thus despite India's prodigious thrift, its companies miss foreign investors now they have fled. Of the $135 billion they raised in the fiscal year to March 2008, $40 billion came from foreign lenders and $22 billion came from a stockmarket buoyed by foreign enthusiasm, according to Tushar Poddar of Goldman Sachs. DLF itself raised $2.2 billion in June 2007 in what was then India's biggest initial public offering.

Those sources of funds have now dwindled, forcing companies to turn to the country's banks. In a report in January, the RBI calculated that the flow of credit from India's banks had increased by $7.6 billion so far this fiscal year, compared with the same period of the previous year. But this failed to compensate for the $26.8 billion shortfall in funds from other sources, such as foreign loans and public issues. "We are ourselves now changing over to public-sector banks," says DLF's Mr Talwar, but it is not easy. "You've got to convince the banks…It is a little time-consuming."

Fear and loafing

India’s banks are flush with cash, but they are also cautious, fearing a rise in the non-performing loans that crippled them in the 1990s. They may also be tempted by “lazy banking”, holding safe government securities, which should increase in price if the RBI keeps cutting rates.

If the banks insist on buying such bonds, then it will fall to the government to borrow and spend what is needed to keep India’s economy turning. It is doing its best. The central government had budgeted a fiscal deficit of 2.5% of GDP for this fiscal year. Last month it admitted the gap would be 6%. Add the red ink of the state governments and various expenses reported “below the line” and the deficit will exceed 11% of GDP this year. On February 24th Standard & Poor’s put a negative outlook on India’s credit rating (BBB-, the lowest investment grade). The same day, the government cut taxes again.

The economy is enjoying a fortuitous fiscal boost from measures taken long before the crisis ballooned. The central government’s legions of employees, for example, have received a pay rise that will be matched by some of the state governments in the next fiscal year. Small farmers had their debts cancelled, and money has flowed to rural districts thanks to India’s employment-guarantee act, which is supposed to offer 100 days of work to every household that needs it.

The government has also announced three stimulus packages. It will spend an extra 200 billion rupees this year on the schools, roads, power plants and other development priorities set out in its latest five-year plan. It has also told the India Infrastructure Finance Company Limited (IIFCL), a government-owned financial company, to sell bonds worth 400 billion rupees. The first tranches of bonds, offering 6.85% and a sovereign guarantee, were oversubscribed. The IIFCL will lend this money to banks, which will then pass it to infrastructure projects worth as much as 1 trillion rupees.

In other countries, fiscal stimulants are raising the spectre of “bridges to nowhere”. But in India, extra infrastructure is sorely needed. During the boom, India’s industry expanded faster than the electricity grid’s capacity to power it; its air traffic outgrew its airports; and cars rolled off the production lines faster than the roads could accommodate them. In DLF’s Aralias in Gurgaon, each flat is allotted three spaces in the car park underneath. But many residents buy more.

The company looks after the roads, storm drains, sewer system and the flora within “DLF City”. But outside, the state authorities have struggled to keep pace. Gurgaon’s roadsides are disfigured by deep trenches, where the trunk sewer line waits to be laid.

Now that India’s economy is slowing and competition for men, materials and money is slackening, India’s public infrastructure may have a chance to catch up. In Gurgaon the Delhi Metro Rail Corporation is building an elevated railway that will connect the upstart city to the capital. It is a public project backed by the governments of India, Delhi and the neighbouring state. It is also now the busiest construction site in the city.



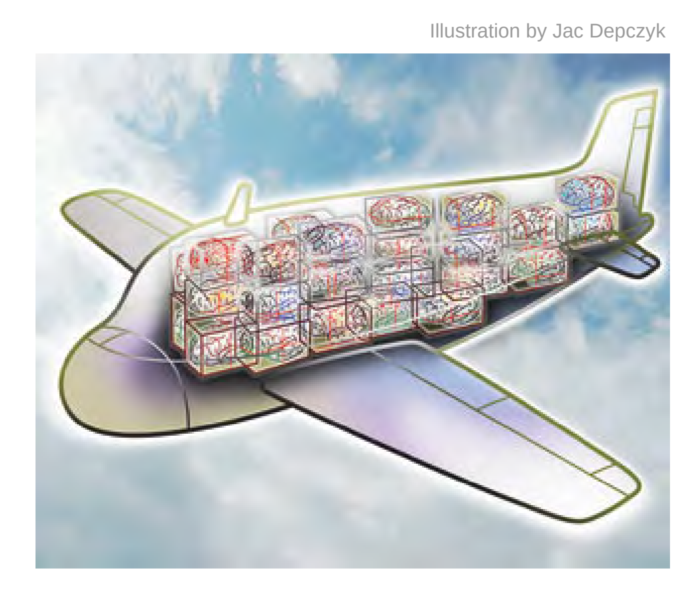
Economics focus

Give me your scientists...

Mar 5th 2009
From The Economist print edition

Restricting the immigration of highly skilled workers will hurt America's ability to innovate

Illustration by Jac Depczyk



JOE BIDEN, America's new vice-president, is prone to gaffes. In 2006 it was the turn of some Americans of Asian descent to take offence at his comment about needing "a slight Indian accent" to go to a 7-Eleven or a Dunkin' Donuts in Delaware. Mr Biden's defence was that he was trying to compliment the immigrant group on its entrepreneurial zeal.

Many Americans are less favourably disposed towards immigrants. And rising unemployment is hardening attitudes. In the hubbub over the insertion of "Buy American" provisions into President Obama's fiscal-stimulus package, the Grassley-Sanders amendment was largely overlooked. This restricts the freedom of recipients of federal bail-out money to hire high-skilled foreign workers under the government's H-1B visa programme. Some people were delighted at what they saw as a significant, if small, first step in cracking down on those who they fear crowd skilled American workers out of the workplace. But others contend that such restrictions could dull America's edge in innovation, just when it is needed to help revive the economy.

Mr Obama says that part of the solution to America's economic problems should come from its universities and research laboratories. Yet these institutions in America are now manned disproportionately by immigrants, who made up 47% of scientists and engineers in America with PhDs, according to the 2000 census. Immigrants accounted for two-thirds of the net addition to America's stock of such workers between 1995 and 2006. Their role in innovation may seem obvious: the more clever people there are, the more ideas are likely to flourish, especially if they can be commercialised. But although contemporary theories of growth emphasise the importance of ideas, they assign no special role to immigration. Economists have tended to think of innovation as driven by the demand for better goods, which generates a need for skilled innovators. People's choices of career and education should respond to the labour market's demands, encouraging more of them to become innovators if needed. But because career choices cannot be expected to adjust instantly, there might be scope for skilled immigrants to fill the gap.

Addressing these issues requires data on just how inventive immigrants are, a question that until recently was the province of educated guesswork. But William Kerr, an economist at Harvard Business School, used name-matching software to identify the ethnicity of each of the 8m scientists who had acquired an American patent since 1975. He found that the share of patents awarded to scientists born in America fell between 1975 and 2004. The share of all patents given to scientists of Chinese and Indian descent living in America more than tripled, from 4.1% in the second half of the 1970s to 13.9% in the years between 2000 and 2004. Nearly 40% of patents filed in 2005 by Intel, a silicon-chip maker, were for work done by

people of Chinese or Indian origin. Some of these patents may have been awarded to American-born children of earlier migrants, but Mr Kerr reckons that most changes over time arise from fresh immigration.

What of the criticism that these workers are displacing native scientists who would have been just as inventive? To address this, Mr Kerr and William Lincoln, an economist at the University of Michigan, used data on how patents responded to periodic changes in the number of H-1B entrants. If immigrants were merely displacing natives, increases in the H-1B quota should not have led to increases in innovation. But Messrs Kerr and Lincoln found* that when the federal government increased the number of people allowed in under the programme by 10%, total patenting increased by around 2% in the short run. This was driven mainly by more patenting by immigrant scientists. But even patenting by native scientists increased slightly, rather than decreasing as proponents of crowding out would have predicted. If anything, immigrants seemed to "crowd in" native innovation, perhaps because ideas feed off each other. Economists think of knowledge, unlike physical goods, as "non-rival": use by one person does not necessarily preclude use by others.

…and your huddled mathematicians

But does all this emigration from the developing world harm the originating countries' capacity for innovation? A new paper** uses data on the patents cited by scientists working in India in their applications to America's patent office. It finds that proximity does matter: Indian patent applicants refer to research by people in India much more often than they cite work by those elsewhere. In that sense, having many scientists leave India does harm innovation there. But Indian researchers also refer to scientists of Indian origin in America more than very similar work by scientists with whom they do not share ethnic ties. So a scientific diaspora gives countries of origin a leg-up in terms of access to the latest research, mitigating some of the problems of a "brain drain". And given that the same scientist is likely to be more productive in America than in a developing country because of better facilities and more resources, immigration may help overall innovation (some of the benefits of which may flow back to firms in poorer countries).

Over time, knowledge flows between countries, and innovations in one place may benefit people elsewhere. So in the long run it may not matter where research takes place. Nonetheless, innovation benefits from clusters. Until there are Silicon Valleys all over the place, the world (and not just America) would be better off if American firms could hire the best people regardless of where they come from.

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* William Kerr and William Lincoln, "The Supply Side of Innovation: H1-B Visa Reform and US Ethnic Innovation". HBS Working paper 09-005, December 2008.

** Ajay Agrawal, Devesh Kapur and John McHale, "Brain Drain or Brain Bank? The Impact of Skilled Emigration on Poor-Country Innovation". NBER Working paper No. 14592, December 2008.

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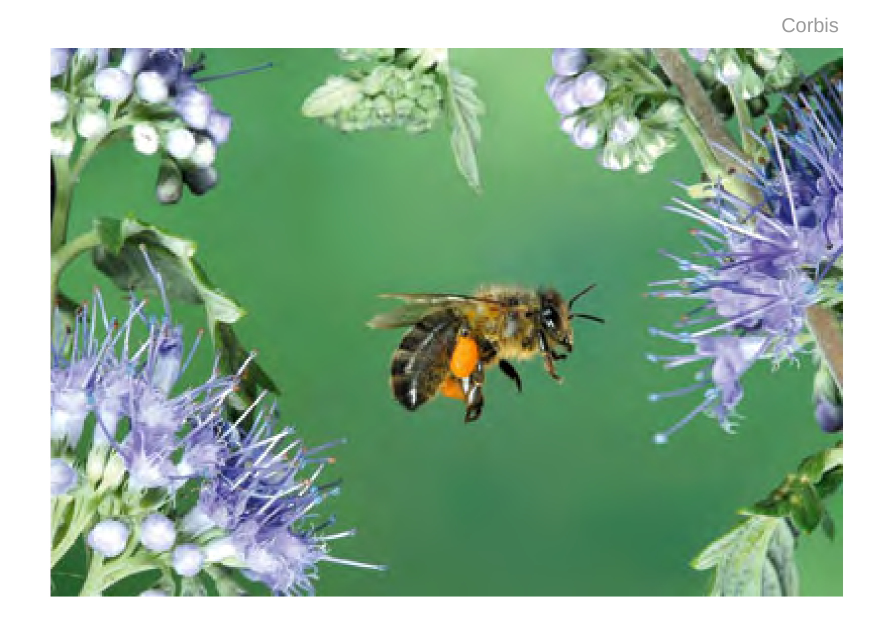
Agriculture

The bees are back in town

Mar 5th 2009
From The Economist print edition

The economic crisis has contributed to a glut of bees in California. That raises questions about whether a supposed global pollination crisis is real

Corbis



AT THE end of February, the orchards of California's Central Valley are dusted with pink and white blossom, as millions of almond trees make their annual bid for reproduction. The delicate flowers attract pollinators, mostly honeybees, to visit and collect nectar and pollen. By offering fly-through hospitality, the trees win the prize of a brush with a pollen-covered bee and the chance of cross-pollination with another tree. In recent years, however, there has been alarm over possible shortages of honeybees and scary stories of beekeepers finding that 30-50% of their charges have vanished over the winter. It is called colony collapse disorder (CCD), and its cause remains a mystery.

Add to this worries about long-term falls in the populations of other pollinators, such as butterflies and bats, and the result is a growing impression of a threat to nature's ability to supply enough nectar-loving animals to service mankind's crops. This year, however, the story has developed a twist. In California the shortage of bees has been replaced by a glut.

Bee good to me

The annual orgy of sexual reproduction in the Californian almond orchards owes little to the unintended bounty of nature. Francis Ratnieks, a professor of apiculture at Sussex University who has worked on the state's almond farms, says the crop is so large and intensively grown these days that it has greatly surpassed the region's inherent ability to supply pollinators. Decades ago, when there were fewer almonds, farmers could rely on pollination just from the beekeepers who live in the Central Valley. Now, they have to import migrant apian labour.

Scientific AG, a firm based in Bakersfield, California, helps broker pollination deals between local almond growers and apiarists from across America. Joe Traynor, the pollination broker who founded Scientific AG, says that in the 1960s there were 100,000 acres (40,000 hectares) of groves. Today it is 700,000 acres and the industry claims it supplies 80% of the world's almonds. In order to meet this pollination demand, more than a third of America's beehives must be moved to California for the season. Such changes to the industry have been reflected in the prices for bee hives. In 1995 growers could rent a hive for $35. Today, says Mr Traynor, a strong colony would cost $150-200.

It is hard to pin down what has been causing honeybees to vanish. “People want it to be genetically modified crops, pollution, mobile-phone masts and pesticides,” says Dr Ratnieks, and it is “almost certainly none of those”. But he adds that such large losses to a population are not unusual in epidemics.

One explanation offered by both Dr Ratnieks and Mr Traynor is of a once-rare disease, possibly caused by the Israeli acute paralysis virus (IAPV), sweeping through colonies that have already been weakened by parasites such as *Nosema ceranae*, a parasitic fungus from Asia. Some have suggested that *N. ceranae* alone might be sufficient to cause CCD, as the fungus is believed to have been widespread since 2006, when CCD first became a problem. There is also *Varroa*, a parasitic mite, which has been another problem in bees for some time, and which might also transmit the IAPV. But there is almost certainly a further factor causing stress on the bees—a poor diet.

Bee-conomics

It is increasingly being recognised that managed bees need food supplements. In some places, a decline in the area of pasture land on which they can forage, the loss of weedy borders and the growth of crop monocultures mean it is hard for bees to find a wide enough range of pollen sources to obtain all their essential amino acids. In extreme cases they may not even find enough basic protein. Writing in *Bee Culture* this February, Mr Traynor observes that places where crops with low-protein pollens, such as blueberries and sunflowers, are grown are also places where CCD has appeared.

The suggestion is that poor nutrition has weakened the bees’ immune systems, making them more vulnerable to viruses and other parasites. Feeding bees supplements, rather than relying on their ability to forage in the wild, costs time and money. Many beekeepers therefore try to avoid it. Anecdote suggests, however, that those who do fork out find their colonies are far more resistant to CCD.

This year’s Californian bee glut, then, has been caused by a mixture of rising supply meeting falling demand. The price of almonds dropped by 30% between August and December last year, as people had less money in their pockets. That has caused growers to cut costs, and therefore hire fewer hives. There is also a drought in the region, and many farmers are unlikely to receive enough water to go ahead with the harvest. Meanwhile, the recent high prices for pollination contracts made it look worthwhile fattening bees up with supplements over the winter. That may help explain why there have been fewer colony collapses.

The rise and fall of the managed honeybee, then, owes as much to the economics of supply and demand as it does to the forces of nature. And if the nutrition and disease theory is correct, next year’s lower contract prices may see beekeepers cutting back on supplemental feeding, and a resurgence of CCD.

Bee off with you!

Despite the importance of the honeybee, none of this is evidence of a wide-scale pollination crisis or a threat that is specific to pollinators. No one has shown that colonies of wild bees are collapsing any more frequently than they used to. And while it is true that many species of butterflies, moths, birds, bats and other pollinators are in retreat, their problems are far more likely to mirror broader declines in biodiversity that are the result of well-known phenomena such as habitat loss and the intensification of agriculture.

Troubling though this loss of diversity is, it does not necessarily translate into a decline in the amount of pollination going on. Jaboury Ghazoul of the Swiss Federal Institute of Technology in Zurich, writing in *Trends in Ecology and Evolution* in 2005, points out that the decline of bumblebees in Europe that has been observed recently mostly affects rare and specialised species—an altogether different problem.

Though the idea that there is a broader and costly pollination crisis under way is entrenched (the United Nations Food and Agriculture Organisation is spending $28m on a report investigating it), the true picture is cloudier. In 2006 America’s National Academy of Sciences released a report on the status of pollinators in North America that concluded “for most North American pollinator species, long-term population data are lacking and knowledge of their basic ecology is incomplete.” Simply put, nobody knows. As for the managed bees of America, Dr Ratnieks says that “the imminent death of the honeybee has been reported so many times, but it has not happened and is not likely to do so”.

Physiognomy and economics

About face

Mar 5th 2009
From The Economist print edition

People's creditworthiness, it seems, can be seen in their looks

SCIENCE proceeds by trial and error. The successes are trumpeted. The errors are often regarded with embarrassment by subsequent generations, and locked away in attic rooms of the subject's mansion like mad relatives in a Victorian novel. Usually, they stay there. Craniology, phrenology and eugenics, once-respectable fields of endeavour that are now regarded with a shudder, may shriek from time to time, but few sane people pay attention to them. One, however, has escaped recently, and is trying to rehabilitate itself. For years physiognomy—the idea that a person's face is a reflection of his character—was sneered at. Now, it is making a come back.

Appearances certainly count. Women, for instance, judge men by their faces. Testosterone levels are reflected in the face, and who is seen as a one-night stand and who as a potential husband depends in part on this physical feature. Similarly, a male face betrays the owner's underlying aggressiveness and even his business acumen. Facial beauty in either sex is also associated with higher incomes. The latest research, though, cuts to the moral quick. For Jefferson Duarte of Rice University in Houston, Texas, and his colleagues are suggesting that one of a person's most telling moral features, his creditworthiness, can also be seen in his face.

Dr Duarte's research was enabled by the internet. Once, if you wanted to borrow money, you had either to visit a bank or to tap a rich friend or relative. Now it is possible to do business directly with a stranger, using a peer-to-peer lending site. The needy advertise themselves, and how much they want. Those flush with cash assess potential borrowers and decide who to lend to, and at what rate of interest.

The borrowers themselves have to disclose their financial positions, credit histories, jobs and education. Often, though this is not required, they also post photographs of themselves. That means it might be possible to assess the effects of appearance on the outcome. And the process is an open auction, which means that all offers, acceptances and rejections are in the public domain.

For his research, Dr Duarte chose a site called Prosper.com. His intention was twofold: to see if physiognomy-based prejudices about creditworthiness existed and, if they did, whether they were justified. To do so he used another peer-to-peer website to subcontract the job of assessing creditworthiness to a number of ordinary people. The site in question (which is run by Amazon) is called Mechanical Turk. In this case the people it matches are those who have a task that needs doing, and those willing to perform it.

Peer review

The team recruited 25 Mechanical Turk workers and asked them to assess pictures of potential borrowers that had been posted on Prosper.com. In particular, they were asked to rate, on a scale of one to five, how trustworthy these people looked, and to estimate the percentage probability that each individual would repay a $100 loan. They were also asked to make several other assessments, such as the individual's sex, race, age, attractiveness and obesity. The 25 results for each photograph were then averaged and analysed.

The researchers looked at 6,821 loan applications, 733 of which were successful. Their first finding was that the assessments of trustworthiness, and of likelihood to repay a loan, that were made by Mechanical Turk workers did indeed correlate with potential borrowers' credit ratings based on their credit history. That continued to be so when the other variables, from beauty to race to obesity, were controlled for statistically. Shifty physiognomy, it seems, is independent of these things.

That shiftiness was also recognised by those whose money was actually at stake. People flagged as untrustworthy by the Mechanical Turks were less likely than others to be offered a loan at all. To have the

same chance of getting one as those deemed most trustworthy they were required to pay an interest rate that was, on average, 1.82 percentage points higher, even when the effects of historical creditworthiness were statistically eliminated.

For trustworthiness, then, physiognomy works. Unfortunately, Dr Duarte's method was not designed to find out which features label someone as trustworthy. But credit-rating agencies are no doubt working on that question even now.

Vanishing twins

Haunted by the past

Mar 5th 2009
From The Economist print edition

Sharing a womb with a living twin is bad for you. A dead one is worse

HUMANS do not normally produce litters. Nevertheless, it is estimated that one person in 20 who was born alone has a lost twin who was conceived at the same time, but failed to reach term.

It has been known for many years that the loss of one twin in this way late in a pregnancy is bad for the other. That other is more likely to be born prematurely, to have cerebral palsy, or even to die as well. What has not been known until now is whether such a loss in the first few months has any effect on the survivor. But a paper just published in *Human Reproduction* by Peter Pharoah of the University of Liverpool, in Britain, suggests that it does.

There are several ways that a "vanished twin" can come to light. Most gruesomely, fully formed body parts of the dead twin may be found embedded in the body of its surviving sibling. More commonly, lost twins are discovered as tiny mummified attachments to the placenta of the live twin, after it is born. And the widespread use of ultrasonic scanning means that, increasingly often, twins are spotted in early scans and subsequently vanish. Neither early ultrasonic "sightings" nor papery mummified corpses are always officially registered. They may not even be mentioned to the mother, so it is hard to know just how often a twin goes missing.

Dr Pharoah, however, made a stab at finding out. He examined three sets of data from northern England. One collated information about infant deaths. A second recorded congenital abnormalities. The third was a register of all pregnancies of twins, triplets or other multiple births.

What made this last register so useful was that it recorded multiple pregnancies as soon as they were recognised ultrasonically, rather than at birth. That made it possible to identify which babies born as "singletons" had actually started their lives as twins. It also, when possible, noted whether fetuses were surrounded by their own chorionic membrane, or whether that chorion was shared.

Between 1998 and 2004 some 213,087 babies were born in the region covered by the register. The rate of congenital anomalies was 1.6 times higher for twins than for singletons. But when Dr Pharoah looked at what happened to fetuses who had survived the early death of their co-twin, the numbers got worse.

He found 138 instances in which one twin died before 16 weeks' gestation and the other was born and survived. Eleven of these survivors had a congenital anomaly such as a malformation of the heart or a facial cleft. From these figures Dr Pharoah calculates that the risk of congenital anomaly in a surviving twin following the early loss of its sibling is 2.4 times higher than if the sibling survives—and almost four times higher than that of true singletons, who had the womb all to themselves from day one. He thinks the harm is done if the blood supply is shared between the two individuals, something more common in twins who share a chorion.

Whether this knowledge can be used to help surviving twins is moot. But identifying a problem is the first step to remedying it. Dr Pharoah seems to have done that.

Physics and philosophy

I'm not looking, honest!

Mar 5th 2009
From The Economist print edition

The good news is reality exists. The bad is it's even stranger than people thought

"HOW wonderful that we have met with a paradox. Now we have some hope of making progress." So said Niels Bohr, one of the founders of quantum mechanics. Since its birth in the 1920s, physicists and philosophers have grappled with the bizarre consequences that his theory has for reality, including the fundamental truth that it is impossible to know everything about the world and, in fact, whether it really exists at all when it is not being observed. Now two groups of physicists, working independently, have demonstrated that nature is indeed real when unobserved. When no one is peeking, however, it acts in a really odd way.

In the 1990s a physicist called Lucien Hardy proposed a thought experiment that makes nonsense of the famous interaction between matter and antimatter—that when a particle meets its antiparticle, the pair always annihilate one another in a burst of energy. Dr Hardy's scheme left open the possibility that in some cases when their interaction is not observed a particle and an antiparticle could interact with one another and survive. Of course, since the interaction has to remain unseen, no one should ever notice this happening, which is why the result is known as Hardy's paradox.

This week Kazuhiro Yokota of Osaka University in Japan and his colleagues demonstrated that Hardy's paradox is, in fact, correct. They report their work in the *New Journal of Physics*. The experiment represents independent confirmation of a similar demonstration by Jeff Lundeen and Aephraim Steinberg of the University of Toronto, which was published seven weeks ago in *Physical Review Letters*.

The two teams used the same technique in their experiments. They managed to do what had previously been thought impossible: they probed reality without disturbing it. Not disturbing it is the quantum-mechanical equivalent of not really looking. So they were able to show that the universe does indeed exist when it is not being observed.

The reality in question—admittedly rather a small part of the universe—was the polarisation of pairs of photons, the particles of which light is made. The state of one of these photons was inextricably linked with that of the other through a process known as quantum entanglement.

The polarised photons were able to take the place of the particle and the antiparticle in Dr Hardy's thought experiment because they obey the same quantum-mechanical rules. Dr Yokota (and also Drs Lundeen and Steinberg) managed to observe them without looking, as it were, by not gathering enough information from any one interaction to draw a conclusion, and then pooling these partial results so that the total became meaningful.

What the several researchers found was that there were more photons in some places than there should have been and fewer in others. The stunning result, though, was that in some places the number of photons was actually less than zero. Fewer than zero particles being present usually means that you have antiparticles instead. But there is no such thing as an antiphoton (photons are their own antiparticles, and are pure energy in any case), so that cannot apply here.

The only mathematically consistent explanation known for this result is therefore Hardy's. The weird things he predicted are real and they can, indeed, only be seen by people who are not looking. Dr Yokota and his colleagues went so far as to call their results "preposterous". Niels Bohr, no doubt, would have been delighted.

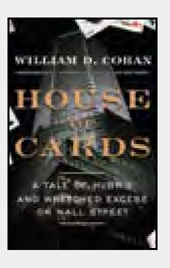
The fall of Bear Stearns

Bearing all

Mar 5th 2009
From The Economist print edition

A new book analyses how the near-collapse of Bear Stearns, exactly a year ago, marked the moment when Wall Street was knocked to its senses

House of Cards: A Tale of Hubris and Wretched Excess on Wall Street
By William D. Cohan



Doubleday; 480 pages; $27.95. Allen Lane; £25

Buy it at
Amazon.com
Amazon.co.uk

Illustration by Daniel Pudles



THE bankruptcy of Lehman Brothers in September 2008 will probably go down as the single most spectacular event in the humbling of Wall Street. But it was the near-collapse of Bear Stearns, six months earlier, that first exposed the fragility of America's seemingly mighty investment banks, perched atop mountains of debt and dangerously reliant on short-term funding. And it was Bear that brought the first serious reminder, after years of excess, of Walter Bagehot's dictum that if you have to prove you are worthy of credit, your credit is already gone.

The smallest of America's top tier of independent investment banks was felled by a massive run on its liquidity, as clients and trading partners fled over just a few days, fearing Bear would be unable to meet its obligations. As one executive said, it was "24 hours from solvent to dead".

For all the bank's complaints that the hedge funds and others that it relied on to stay afloat were unable or unwilling to "parse fact from fiction", there were good reasons to worry. Bear had put many of its eggs in one basket—mortgage-backed securities—and these were fast turning rotten, and impossible to sell, as house prices tumbled. In failing to diversify, Jimmy Cayne, Bear's longtime boss, became "a Sophoclean tragic hero, ruined by his own terrible choices," says William Cohan, who began work on "House of Cards" after "The Last Tycoons", his prize-winning history of Lazard Frères.

Bear was pushed into the arms of JPMorgan Chase on March 16th 2008 after a chaotic weekend that left several sleep-deprived Bear executives in tears. In his new book, which coincides with the first anniversary of the Bear Stearns crisis, Mr Cohan, himself a former investment banker, provides a riveting, blow-by-blow account of the days leading up to the government-backed shotgun wedding, based on interviews with more than 120 of those who lived through it.

At the heart of this cautionary tale sits the cigar-chomping Mr Cayne, who revelled in his firm's image as Wall Street's scrappy outsider. Bear may have gone public in 1985, but it was run more as an insular, rough-and-tumble partnership than a listed company with global aspirations. Mr Cayne set the tone, branding colleagues who crossed him "cocks" and "bully pricks"—light criticism compared with the phrases he reserved for unsympathetic journalists.

Bear had been the only big firm that refused to help out Long-Term Capital Management, a hedge fund that came close to the brink in 1998. Some wondered if this was the reason Hank Paulson, then treasury secretary and a former boss of Goldman Sachs, insisted on Bear being sold for a mere $2 per share (though this was later quintupled after shareholders revolted). There were certainly many on Wall Street, including a fair few at the firm itself, who felt Bear had it coming.

To his discredit, Mr Cayne oversaw the ballooning of Bear's balance-sheet to as much as 50 times its equity and an aggressive push into complex credit products that he never fully understood. He impetuously sacked the only senior executive who did, and at times displayed stunning financial indiscipline, for instance insisting on announcing a cross-investment with a Chinese bank before having vetted its books. A near-obsessive fear of looking weak did not help, either, making him reluctant to raise new capital even as rivals rushed to plump their cushions.

In his final weeks at the helm, before being shunted aside in a high-level mutiny, Mr Cayne cut a hapless figure, mingling awkwardly with his traders, trying half-heartedly to get a grip on the bank's assets; he always had more time for bridge than bonds. On a crucial call with analysts, Mr Cayne reportedly clammed up "like a deer in the headlights", forcing colleagues to pretend he had left the room.

Mr Cohan handles his material deftly, portraying Bear as symptomatic of an industry that had come to believe its own hype and had lost sight of how inherently unstable it really was. Bear's crash marked the moment when a delirious Wall Street was knocked to its senses. As one executive put it at the time, in terms that Mr Cayne might appreciate: "You can't fly like the eagles and poop like a canary."

House of Cards: A Tale of Hubris and Wretched Excess on Wall Street.
By William D. Cohan.
Doubleday; 480 pages; $27.95. Allen Lane; £25

Raúl Prebisch

Latin America's Keynes

Mar 5th 2009
From The Economist print edition

The Life and Times of Raúl Prebisch, 1901-1986
By Edgar J. Dosman



McGill-Queen's University Press; 624 pages; $49.95 and £38

Buy it at
Amazon.com
Amazon.co.uk

IT IS hard to think of a better moment for the appearance of the first full biography of Raúl Prebisch, an Argentine who was a towering figure in the international debates on economic development from the 1940s to the 1970s. He was often talked of as "Latin America's Keynes", though the resemblance was only partial. Prebisch was more of a policymaker and economic diplomat than a theorist. Rather like Keynes, he fell out of favour in the 1980s. Now, also like Keynes, Prebisch may be due for a comeback, at least in Latin America. That makes it all the more important to disentangle what he thought from the views with which he was often associated.

AP



Eyebrow diplomacy

Prebisch is best known for his ideas on international trade. These emerged from his precocious career in Argentina, which included setting up the country's statistics office and central bank, as Edgar Dosman, a Canadian academic, ably describes. In the 1930s he also acted as Argentina's leading trade diplomat when his country's prosperity was threatened by the problems of Britain, the main market for its meat and grains. He concluded that the price of primary products tended to decline relative to those of manufactured goods (which embodied higher productivity), and thus that industrialised countries derived more benefit from trade than developing ones. The answer was to promote structural change and industrialisation in Latin America. Hans Singer, a British economist at the United Nations, reached similar conclusions. Their idea became known as the "Prebisch-Singer" thesis.

Invited by the UN in 1948 to direct its new Economic Commission for Latin America (ECLA), Prebisch turned its secretariat in Santiago, Chile, into a launch pad for "structuralism" and its related ideas of "inward development", import-substitution industrialisation and regional integration. Sadly, these were often abused by Latin American governments (and some economists at ECLA itself) to justify exaggerated protectionism and inflationary financing of government. Prebisch moved on to become the first director-general of the UN Conference on Trade and Development (UNCTAD). Though undermined by the cold war, UNCTAD managed to negotiate the general system of preferences under which rich countries give tariff-free access to products from the developing world. But the "new international economic order" proposed by Prebisch (who had a knack for coining phrases) remains elusive, as the current failure to conclude the Doha "development round" of world trade talks shows.

Prebisch was regarded by some people, both in America and in Europe, as something of a dangerous radical. In fact, if not always in rhetoric, he was a moderate who was also generally pro-American (rather more so than Mr Dosman, whose occasional, gratuitous anti-American asides grate). But he tended to get on better with Democratic administrations. He was one of the inspirers of President Kennedy's Alliance for Progress, an aid programme for Latin America.

This fitted his preference for reform rather than revolution. He was an early believer in central-bank independence, long before this was fashionable. He was also an inflation hawk who set great store by fiscal stability. He wanted a mixed economy, but one in which the private sector would play the leading role. Those ideas made him a foe of Argentina's populist leader, Juan Domingo Perón, who saw him as

too much of a pro-IMF economic liberal and forced him out of the central bank.

By the late 1950s Prebisch was giving warning that import-substitution was leading to the costly neglect of exports in Latin America (he thought South Korea applied structuralism much more effectively than his own region). By the early 1970s he was worried about the region's growing foreign debt. This culminated in debt defaults across Latin America in 1982, a cataclysm that would sweep away import-substitution and usher in a new era of free-market reform in Latin America.

If Prebisch's reputation was one of the victims of that debt crisis, it was partly his fault. He never systematised his ideas in a substantial book. He was sometimes politically naive. He flip-flopped on dependency theory, a more radical version of structuralism developed by Latin American Marxists. And the Prebisch-Singer thesis turned out to be flawed—as the recent commodity boom demonstrated.

Mr Dosman's writing is workmanlike rather than sparkling. His publishers have failed to correct a string of small mistakes or remove repetitions. Readers will not necessarily share his fascination with the minutiae of development diplomacy. When even Mr Dosman recognises on page 431 that an UNCTAD conference involved "a routine of merciless boredom", the reader empathises.

But those minor flaws are far outweighed by the book's strengths. Mr Dosman has read everything Prebisch wrote and interviewed many of those who were closest to him. His research is exhaustive. In rescuing Prebisch for a new generation, and above all in allowing the reader to separate the man from the myth, he has performed a valuable service for all those interested in economic thinking in Latin America and in the field of international development in general.

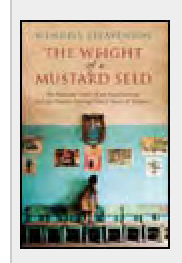
The Life and Times of Raúl Prebisch, 1901-1986.
By Edgar J. Dosman.
McGill-Queen's University Press; 624 pages; $49.95 and £38

Iraq under Saddam

Only obeying orders

Mar 5th 2009
From The Economist print edition

The Weight of a Mustard Seed: The Intimate Story of an Iraqi General and His Family During Thirty Years of Tyranny
By Wendell Steavenson



Collins; 304 pages; $24.99. Atlantic Books; £14.99

Buy it at
Amazon.com
Amazon.co.uk

WHY did so many apparently decent Iraqis serve Saddam Hussein so loyally for so many years? An American-British reporter, Wendell Steavenson, has interviewed a score or more of Iraqi soldiers, from sergeants to generals, trawling through their life histories to find an answer. In particular, she befriends the family of a brave general, Kamel Sachet Aziz al-Janabi, delving into his life story through his wife, several of his nine children and numerous friends and admirers.

Only later does the reader discover that he was one of countless Iraqis executed by Saddam, for reasons that never become clear, in his case only a few years before the Americans toppled the dictator. General Sachet emerges as a fundamentally honest and upright, though occasionally ruthless and intellectually limited, soldier who turns to religion, like so many other Iraqis, as the regime putrefies. His family is battered. Though its members have every cause to celebrate Saddam's demise, most of them sympathise with—and some of them actively support—the anti-American insurgency that was still rife as this book went to print.

Ms Steavenson seeks to examine the inner lives of other Iraqi military men. She relentlessly tracks them down to their abodes of exile in Abu Dhabi, Amman, Beirut, Damascus and London. After a while, there is a dispiritingly drab sameness about their stories. In short, you had to lie to survive. Perhaps the most honest in his reflections is a doctor who became a senior officer in the medical corps. "You had to lie against your principles. You had to say things you did not believe. It was mental conflict. To live 35 years like this. It becomes a personality trait."

All those interviewed have tales of horror. Just about all of them witness summary executions: of enemy soldiers (mainly Iranians), of Kurds, of Kuwaitis, of Iraqi deserters, of senior Iraqi officers who are deemed to have been guilty of losing battles or even merely of retreating when they should have stayed to fight and die. General Sachet is ordered to oversee such executions. A sergeant witnesses an Iraqi, who was alleged to have abused a woman in Kuwait, hauled up by a crane to be shot by fellow Iraqi soldiers. The same happens to an Iraqi colonel caught smuggling gold. Kuwaiti prisoners have their ears nailed to a plank of wood.

A former bodyguard of Saddam's describes, admiringly, how he saw the dictator taking out his revolver and "shooting between the eyes" one of his own relatives who had taken a younger wife and had rejected the president's request to go back to his original one. A relation of General Sachet tells how Qusay Saddam Hussein, the dictator's son, gave an order to kill 2,000 prisoners in Abu Ghraib prison (which became notorious for abuses during the early years of the American occupation) to relieve overcrowding.

Perhaps most dispiriting of all, virtually none of those interviewed acknowledges responsibility for what was done. Most of their explanations are variations on "we were only obeying orders". "What could I do?" "But I helped people, many people!" "I suffered also, you know." "This was usual then." The gassing of 5,000 Kurds in Halabja was, concedes a seemingly upright general, "a political mistake".

"I liked them. I joked with them. I sympathised with them," writes Ms Steavenson. "But not one ever looked me straight in the eye and admitted responsibility for the crimes of the government which they had served." Even after the depredations of Saddam Hussein, many of those Ms Steavenson talked to still hankered after someone like him. Iraqis, says one, are "an unruly mass of *shirugi*—slang for thick-headed Marsh Arabs—who need the rule of the rod, a strongman, to control them." Judging by this remorselessly bleak account of Iraq's moral collapse, one cannot but feel squeamish about Iraq's future, under any regime.

The Weight of a Mustard Seed: The Intimate Story of an Iraqi General and His Family During Thirty Years of Tyranny.
By Wendell Steavenson.
Collins; 304 pages; $24.99. Atlantic Books; £14.99

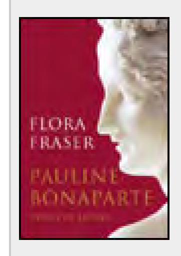
French history

Revolutionary women

Mar 5th 2009
From The Economist print edition

"AMID all these pleasures", wrote Lucie de la Tour du Pin in her memoirs, "we were laughing and dancing our way to the precipice." Hence the title of Caroline Moorehead's excellent new book. The pleasures were the extraordinary extravagance of the French aristocracy during the reign of Louis XVI and Marie Antoinette. The fall from the precipice meant the storming of the Bastille in 1789, followed by the revolutionary "Terror" of Robespierre and then by the Napoleonic wars that consumed Europe for almost two decades.

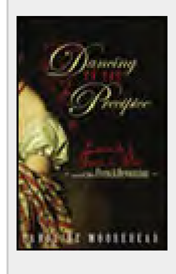
Pauline Bonaparte: Venus of Empire
By Flora Fraser



Knopf; 304 pages; $28.95. To be published in Britain as

Buy it at
Amazon.com

Dancing to the Precipice: Lucie de la Tour du Pin and the French Revolution
By Caroline Moorehead



Chatto & Windus; 496 pages; £20. To be published in America by Harper in June

Buy it at
Amazon.com
Amazon.co.uk

Much the same territory is covered by Flora Fraser in her biography of Napoleon's young sister, Pauline. Yet the two women were hardly alike. Born Lucie-Henriette Dillon in Paris's fashionable rue du Bac and descendant of French and Anglo-Irish aristocrats, Lucie was a woman of intellect, culture and learning. Unusually, in an age of arranged marriages and extramarital affairs, she had a faithful 50 years of marriage to Frédéric-Séraphin, Marquis de la Tour du Pin Gouvernet. By contrast, Pauline, her Corsican childhood spent in the relatively modest Bonaparte household in Ajaccio, was a spoilt, sexually promiscuous airhead. Her redeeming feature, apart from a beauty acknowledged by all, was a certain courage: she insisted on accompanying her first husband, General Victor Emmanuel Leclerc, on a hazardous posting in Saint-Domingue (later to become Haiti). She alone of all Napoleon's siblings was willing to join his exile on Elba—and begged, to no avail, to be with him in his final days on remote Saint Helena.

Pauline's life of scandal and intrigue makes for a page-turning read: the catalogue of lovers first cherished and then spurned; the jealous dislike of Napoleon's wife, Josephine; the rumours of lesbian affairs and of incest with the brother who dominated Europe; the suspicions of venereal disease; and, with a near-nudity designed to titillate, Canova's life-size statue of a reclining Pauline as Venus on display in Rome's Villa Borghese (Pauline's second husband was Prince Camillo Borghese).

But the story of Lucie is the more satisfying. In part this is because of her intelligent observations on everything from the nature of America and England—both temporary refuges for Lucie and her husband during the persecution of the aristocracy—to the niceties of the Parisian salon. She was a lady-in-waiting to Marie Antoinette and, at Napoleon's bidding, attended the Empress Josephine (she "bore herself like a queen, though not outstandingly intelligent"). Lucie knew everyone who mattered, from the cynical and cunning Talleyrand to the egotistical Chateaubriand.

Yet the greater joy of this book is Ms Moorehead's skill in building on Lucie's observations. She covers the interplay of the European powers and the roller-coaster complexity of France from Louis XVI to Napoleon III with deceptive ease. Her description of the revolution and then the Terror shocks the reader; her summary of the human damage wrought by Napoleon's thirst for conquest is brilliantly succinct: "It would later be said that half of all French boys born between 1790 and 1795 had either been killed or wounded in Napoleon's wars." Meanwhile, she uses the misfortunes of Lucie's life to cast a wider light on an age where disease and death were all too commonplace. From Lucie's multiple pregnancies and miscarriages, only one of her six children outlived her.

In comparison, Ms Fraser's book is a lesser, though still entertaining, work. What is common to both is the presence of Napoleon Bonaparte, viewed for once in English literature through a French lens. Both authors reveal Napoleon's strength as an administrator, restoring France to order after the chaos of the revolution and the Terror. In the end, of course, Napoleon's ambition led to the final defeat at Waterloo

in 1815, and doubtless Pauline's excesses help explain her death in 1825 at the age of 44. Fittingly, the virtuous Lucie survived them both, dying in Pisa in 1853 at the age of 83.

Pauline Bonaparte: Venus of Empire.
Flora Fraser
Knopf; 304 pages; $28.95. To be published in Britain as "Venus of Empire" by John Murray in May

Dancing to the Precipice: Lucie de la Tour du Pin and the French Revolution.
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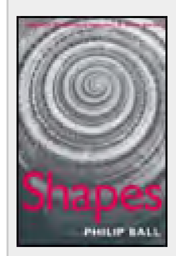
Shapes

Nature's patterns

Mar 5th 2009
From The Economist print edition

WHY do honeycombs have hexagonal cells? Why are the florets in a sunflower arranged in a double spiral? In medieval times, these questions would have been met with a simple answer. God established the heavens, setting "a compass on the face of the deep", leaving evidence of His presence in all creation. Most scientists today would rather invoke Charles Darwin to explain these patterns as products of evolution. They emerged from myriad possible shapes through natural selection. In other words, they are particularly suited to the task at hand.

Shapes: Nature's Patterns—A Tapestry in Three Parts
By Philip Ball



Oxford University Press; 320 pages; £14.99. To be published in America by Oxford University Press in April

Buy it at
Amazon.com
Amazon.co.uk

Philip Ball, a British science writer, sets out to document the current understanding of what caused nature's multifarious shapes. Is it just evolution or are there physical and chemical forces at work? One of Mr Ball's heroes is Sir D'Arcy Wentworth Thompson, a Scottish biologist and polymath, who in 1917 wrote "On Growth and Form". This mammoth and erudite tome, the first formal attempt to analyse patterns and shapes in nature, was described by a colleague, Sir Peter Medawar, as "the finest work of literature in all the annals of science that have been recorded in the English tongue." Yet it was a difficult task, and Thompson never quite achieved the results he hoped for.

Take the beehive, and its hexagonal honeycomb. Why does a hive not have triangular or square cells instead? In the 18th century a French scientist, René de Réaumur, worked out that the hexagonal structure ensures that bees fill the volume efficiently yet limit the total wall area of the cells. Put slightly differently, hexagonal cells allow bees to focus on producing honey and expend the least amount of energy making wax. Darwin used the beehive as an example of evolution, saying it "was absolutely perfect in economising labour and wax".

Thompson argued for a simpler physical explanation, saying that natural selection need not enter the picture at all. If one treated each individual cell as a bubble of wax created by a bee, and every bee was trying to create as large a cell as possible, the physics of surface tension would ensure that all the bubbles took on a hexagonal shape within the hive.

Mr Ball finds the real answer to be more complex than either explanation. To Darwin's supporters, Mr Ball points out that decoding the honeybee genome still does not explain how the bee makes the honeycomb. On the other hand, Thompson's explanation of surface tension ignores the bees, which painstakingly build the honeycomb, and possess capabilities that are not yet fully understood. For example, the honeycomb is somehow aligned to the earth's magnetic field, though no one quite knows why. From the curl of a ram's horn to patterns of spider webs and the development of an embryo, Mr Ball examines the possible causes of the shapes and forms we observe. His book contains a lot of fascinating detail about the different physical, chemical and evolutionary processes at work. In the end, he concludes, nature is an opportunist.

Shapes: Nature's Patterns—A Tapestry in Three Parts.
By Philip Ball.
Oxford University Press; 320 pages; £14.99. To be published in America by Oxford University Press in April

The Yves Saint Laurent sale

Caveat venditor

Mar 5th 2009
From The Economist print edition

The fallout continues

WILL Cai Mingchao, the Chinese auctioneer who sabotaged the sale of the Qing Dynasty rat head and rabbit head (pictured below) at Christie's in Paris last week, still be celebrated as a patriot when it is discovered that one of his two underbidders was planning to give the bronzes to China?

The Chinese government had tried to block the sale of the antiquities with official complaints and an 11th-hour legal challenge. When it failed, Mr Cai took it upon himself to secure both bronze pieces, but then announced he was refusing to pay for them as a mark of political protest.

EPA



Now *The Economist* has discovered that a London-based Chinese businessman who bid up to €12m ($15.1m) on both pieces was attempting to buy one of them as a gift for China. With Mr Cai's pirate move, however, the controversy has escalated and the bronzes have become too hot to touch.

Although many Chinese applauded Mr Cai's intervention, the State Administration of Cultural Heritage has sought to distance itself from what he did, saying "it was totally the action of an individual."

The two sculptures were part of a water clock designed by a Jesuit missionary for the Beijing summer palace, a Chinese version of Versailles, which was looted by French and English troops in 1860. The works have little art-historical significance, but they have become a symbol of national humiliation and their repatriation is an emotional issue for the Chinese.

Profits, as well as national pride, are at stake. After the auction, but before Mr Cai's declaration that his bid was bogus, Chinese authorities ordered strict checks on all Christie's exports and imports. Mr Cai, the general manager of Xiamen Harmony Art International Auction Company in Fujian Province in south-eastern China, is one of thousands of small auction-house operators who would benefit from a scaling-back of Christie's operations. Hong Kong was Christie's third most lucrative outpost in 2008 (after New York and London) and the company also has a trademark licensing agreement with Forever International Auction Company based in Beijing.

Even without the proceeds from the bronze animal heads, the auction still brought in €342.4m, making it the biggest single-owner sale in history and the highest sales total for any auction in Europe. Who, in the current climate, were the buyers? Few prices were more startling than the €22m commanded by an early 20th-century chair designed by Eileen Gray. Cheska Vallois, an Art Deco dealer, won the work in the room; it is thought that she did so on behalf of Henry and Marie-José Kravis, who had already acquired examples of Gray's work from Ms Vallois at the Biennale des Antiquaires in Paris.

Before the sale, Abu Dhabi, which is building Louvre- and Guggenheim-branded museums in the desert, is said to have bid for the entire collection. Only two major lots, however, provided concrete evidence of Arab buying. Wafic Saïd, a Syrian-born Saudi businessman, bought paintings by Juan Gris and Fernand Léger.

Many works were bought by museums. The Louvre, the Centre Pompidou, the Musée d'Orsay and Musée National de la Renaissance bought six works through the French system of *préemption*, which allows the

government to match any winning bid. The National Gallery of Australia purchased a pastel by Edgar Degas, while the National Museum of Stockholm acquired a late 17th-century silver pitcher. And Galerie J. Kugel in Paris spent €2.2m on behalf of the Herzog Anton Ulrich Museum of Lower Saxony for two large silver cups and a rare silver table fountain.

Economist.com PEOPLE OBITUARY

Conchita Cintrón

Mar 5th 2009
From The Economist print edition

Conchita Cintrón Verill, bullfighter, died on February 17th, aged 86

Corbis



FOUR in the afternoon is the vital time in bullfighting. Most *corridas* start then, when the declining sun shines full in the bull's eyes, dazzling him. And that was the only time Conchita Cintrón felt afraid. Behind the closed gates of the *patio de cuadrillas*, mounted and ready, she would feel a sudden lightning bolt to the pit of the stomach, the realisation that she didn't know how the bull would be, or what was about to happen. At that moment, everyone was quiet. All she could hear was the tinkling harness of the mules that would drag the bull out of the ring, the chink of spur on stirrup, "and the voice of some well-intentioned supporter wishing you luck, and you can hardly bear to give him your hand." Then the gates swung open, the trumpets blared out, "and it's just God, the bull and the bullfighter."

It was also at four in the afternoon that she had dared to knock, years before, at the door of Ruy da Cámara's riding school in Lima. It was a cold, pale day in winter; she was 11. The place was deserted. Da Cámara found in front of him a slender child with blonde page-boy hair and blue eyes, dressed in overalls, which she wore as nonchalantly as if she had no other clothes. She handed him a ten-soles note and asked him to give her a lesson. Yes, she added, she knew how to ride a little; she had been given a horse as a present on the day of her first communion.

Da Cámara noticed then what fans treasured later: her delicacy, her solemnity and her fearlessness. She was a *gringa*, with a Puerto Rican father and an Irish-American mother; this accounted for her fair northern colouring, which earned her the name "Golden Goddess" in Mexico, where she made her reputation. Her fine hands allowed her to flick and twirl the *muleta*, luring the bull and teasing him, with extraordinary artistry. Beside the huge black beast, one commentator wrote, she looked like a Sèvres figurine, but one brimming over with *duende*—courage, grace and defiance. She was known especially for her *verónicas*, slow backward swings of the cape with both feet rock-steady as the bull raced towards her, almost upon her.

But Ms Cintrón had not intended to work with capes or *muletas*. She had started as a horse-rider, until the day when da Cámara encouraged his pupils to stick *banderillas* in an old chair from horseback. She took to the new game so eagerly that, at 13, he tried her talents on a frisky bull that was being driven to the local slaughterhouse. Her horse, as she gave it rein and raced forwards, leapt "like a swallow" with fear, but she saw her *banderilla* planted firmly for the first time in the black, mountainous neck. That was it. At 16, though her parents wished she would do something ladylike, such as learning French, she was touring professionally round the bullrings of Latin America.

Learning to kill was harder. She practised at the slaughterhouse, serenely confident, as she would tell preachy Americans later, that these bulls would otherwise die by the hammer, an "unsporting" end. At first she closed her eyes, missing the vital spinal gap where her dagger had to fall. She forced herself not only to look, but to stay still as the bull charged her. Only then could she see the spot. The keen, true thrust, and the instantaneous death, made her sing with joy. In her fairly short career—she retired in 1950, at 27, wanting to marry a man who would not roll over so readily—she killed more than 750 bulls, happily collecting their ears, tails and feet.

A passing caress

Her skills were not always welcome. This was, and is, a man's world. She had been trained as a *rejoneadora*, in the Portuguese version of bullfighting, and was supposed to stay on her horse. Men went on foot to do their duelling with the bull, and to kill it; this was not women's work. But Ms Cintrón found her horse got in the way. "Twos always work better than threes," she liked to say. In her *rejoneadora* gear—no flashy suit of lights, but a silk jacket, leather chapped trousers and a wide-brimmed hat—she would slide from her steed and right into the close, bloody dance.

One late fight, in Jaen in 1950, was especially famous. Women were forbidden to fight on foot in Franco's Spain, in case they were gored in unseemly ways. (Ms Cintrón was often injured and twice gored, once in each thigh, but managed to finish off the bull after fainting briefly.) On this occasion, having slipped illegally from her horse, she snatched a *muleta* and sword from the waiting *novillero*, raised the sword as the bull charged, and then dropped it, instead caressing the huge black neck as it hurtled past. For this "burst of glorious criminality", as Orson Welles described it, she was instantly arrested and as instantly pardoned, as the crowd rained down hats and carnations. That final caress, with her delicate fingers, was a gesture only a woman might have thought of making.

She married well, to an aristocratic nephew of her riding teacher, and spent the rest of her life writing articles, breeding Portuguese water dogs and doing the diplomatic round. In old age, she would complain that she had lived too long; a bullfighter, after all, "sees no importance in living beyond the fight". Ordinary life dragged. But at times, laughing, she would make her hands into horns and imitate the rush of the bull out of the gate, at four in the afternoon.

Overview

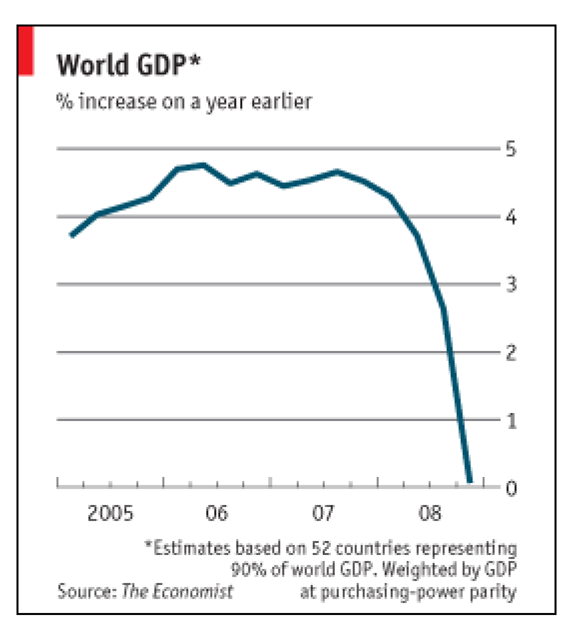
Mar 5th 2009
From The Economist print edition

America's GDP shrank at an annualised rate of 6.2% in the fourth quarter, revised down from an earlier estimate of 3.8%.

The Bank of **Canada** cut its benchmark interest rate by half a percentage point, to 0.5%, the lowest level on record. Canada's GDP fell at an annualised rate of 3.4% in the fourth quarter, the biggest drop since 1991.

Consumer-price inflation in the **euro area** edged up from 1.1% to 1.2% in February, according to a preliminary estimate.

Australia's central bank unexpectedly kept its benchmark interest rate unchanged, at 3.25% on March 3rd. The bank said that spending had not fallen as much as elsewhere. GDP in Australia fell at an annualised rate of 2.1% in the fourth quarter.



Output, prices and jobs

Mar 5th 2009
From The Economist print edition

Output, prices and jobs

% change on year ago

	Gross domestic product				Industrial production	Consumer prices			Unemployment
	latest	qtr*	2008†	2009†	latest	latest	year ago	2008†	rate‡, %
United States	−0.8 Q4	−6.2	−2.2	+1.9	−10.0 Jan	nil Jan	+4.3	−0.6	7.6 Jan
Japan	−4.6 Q4	−12.7	−5.3	+0.5	−30.8 Jan	nil Jan	+0.7	−0.8	4.1 Jan
China	+6.8 Q4	na	+6.0	+7.0	+5.7 Dec	+1.0 Jan	+7.1	−0.2	9.0 2008
Britain	−1.9 Q4	−6.0	−3.1	+0.5	−9.3 Dec	+3.0 Jan§	+2.2	+1.0	6.3 Dec††
Canada	−0.7 Q4	−3.4	−1.5	+1.7	−5.7 Dec	+1.1 Jan	+2.2	+0.5	7.2 Jan
Euro area	−1.2 Q4	−5.7	−2.4	+0.7	−12.0 Dec	+1.2 Feb	+3.3	+0.6	8.2 Jan
Austria	+0.5 Q4	−0.8	−1.3	+0.8	−4.7 Dec	+1.2 Jan	+3.2	+0.8	4.0 Jan
Belgium	−0.5 Q4	−5.2	−1.8	+0.9	−6.5 Dec	+1.9 Feb	+3.6	+1.1	11.1 Jan‡‡
France	−1.0 Q4	−4.6	−1.9	+0.7	−11.1 Dec	+0.7 Jan	+2.8	+0.4	8.3 Jan
Germany	−1.7 Q4	−8.2	−3.2	+0.8	−12.0 Dec	+1.0 Feb	+2.8	+0.4	7.9 Feb
Greece	+2.6 Q4	+0.7	−1.9	−0.3	−8.7 Dec	+1.8 Jan	+3.9	+0.9	7.8 Nov
Italy	−2.6 Q4	−7.1	−2.7	+0.5	−14.3 Dec	+1.6 Feb	+2.9	+1.0	6.7 Q3
Netherlands	−0.6 Q4	−3.4	−1.9	+0.8	−13.3 Dec	+2.0 Feb	+2.2	+0.7	3.9 Jan††
Spain	−0.7 Q4	−3.8	−2.5	nil	−23.6 Jan	+0.7 Feb	+4.4	+0.6	14.4 Dec
Czech Republic	+1.0 Q4	−2.4	−1.4	+1.9	−14.6 Dec	+2.2 Jan	+7.5	+2.5	6.8 Jan
Denmark	−3.9 Q4	−7.8	−2.2	+0.7	−5.4 Dec	+1.8 Jan	+2.9	+1.2	2.3 Jan
Hungary	+2.0 Q4	−3.9	−3.0	+0.4	−23.3 Dec	+3.1 Jan	+7.1	+2.9	8.4 Jan††
Norway	+0.8 Q4	+5.6	−1.0	+0.6	+3.7 Dec	+2.2 Jan	+3.7	+1.7	3.0 Dec***
Poland	+2.9 Q4	na	+0.7	+2.2	−14.9 Jan	+3.1 Jan	+4.0	+3.0	10.5 Jan‡‡
Russia	+1.1 Q4	na	−2.0	+3.0	−16.0 Jan	+12.0 Feb	+12.7	+13.0	8.1 Jan‡‡
Sweden	−4.9 Q4	−9.3	−2.2	+0.9	−20.3 Dec	+1.3 Jan	+3.2	−0.1	7.3 Jan††
Switzerland	−0.1 Q4	−1.2	−1.6	+0.7	+0.7 Q3	+0.1 Jan	+2.4	−0.1	2.9 Jan
Turkey	+0.5 Q3	na	−1.5	+1.7	−17.6 Dec	+7.7 Feb	+9.1	+7.8	12.3 Q4‡‡
Australia	+0.3 Q4	−2.1	−0.3	+1.6	+3.8 Q3	+3.7 Q4	+3.0	+2.1	4.8 Jan
Hong Kong	−2.5 Q4	−7.8	−4.7	+0.2	−6.7 Q3	+3.1 Jan	+3.3	+1.1	4.6 Jan††
India	+5.3 Q4	na	+5.0	+6.6	−2.0 Dec	+10.4 Jan	+5.5	+5.4	6.8 2008
Indonesia	+5.2 Q4	na	+1.9	+2.2	−2.8 Dec	+6.9 Feb	+7.4	+5.5	8.4 Aug
Malaysia	+0.1 Q4	na	−0.3	+2.8	−15.6 Dec	+3.9 Jan	+2.3	+1.1	3.1 Q3
Pakistan	+5.8 2008**	na	+1.2	+3.2	−1.2 Nov	+20.5 Jan	+11.9	+10.1	5.6 2007
Singapore	−4.2 Q4	−16.4	−7.2	+1.8	−29.1 Jan	+2.9 Jan	+6.6	+0.4	2.6 Q4
South Korea	−3.4 Q4	−20.8	−5.9	+0.3	−25.6 Jan	+4.1 Feb	+3.6	−0.6	3.3 Jan
Taiwan	−8.4 Q4	na	−6.5	+0.1	−43.1 Jan	−1.3 Feb	+3.9	−1.0	5.3 Jan
Thailand	−4.3 Q4	−22.2	−1.8	+2.2	−21.3 Jan	−0.1 Feb	+5.4	−1.4	1.4 Dec
Argentina	+4.9 Q4	−1.2	−2.7	+1.7	−4.4 Jan	+6.8 Jan	+8.2	+7.0	7.3 Q4‡‡
Brazil	+6.8 Q3	+7.4	−0.4	+3.2	−14.5 Dec	+5.8 Jan	+4.6	+4.4	8.2 Jan‡‡
Chile	+4.8 Q3	−0.2	+1.0	+2.3	−8.9 Jan	+6.3 Jan	+7.5	+4.0	8.0 Jan††‡‡
Colombia	+3.1 Q3	+2.9	−1.0	+1.5	−9.2 Dec	+7.2 Jan	+6.0	+5.0	14.2 Jan‡‡
Mexico	−1.6 Q4	−10.3	−1.8	+1.4	−6.7 Dec	+6.3 Jan	+3.7	+5.0	5.0 Jan‡‡
Venezuela	+3.2 Q4	na	−3.0	−5.4	+2.4 Nov	+30.7 Jan	+24.1	+31.6	6.3 Q4‡‡
Egypt	+5.9 Q3	na	+3.9	+3.9	+7.3 Q3	+14.4 Jan	+10.5	+7.8	8.6 Q3‡‡
Israel	+1.2 Q4	−0.5	+0.4	+2.6	+1.2 Dec	+3.3 Jan	+3.5	+1.8	6.3 Q4
Saudi Arabia	+3.5 2007	na	+0.4	+3.3	na	+7.9 Jan	+5.8	+4.3	na
South Africa	+1.0 Q4	−1.8	−0.8	+3.1	−7.0 Dec	+8.1 Jan	+9.3	+6.0	21.9 Dec‡‡
MORE COUNTRIES Data for the countries below are not provided in printed editions of *The Economist*									
Estonia	−9.4 Q4	na	−5.0	+1.1	−26.8 Jan	+4.1 Jan	+11.0	+3.3	9.2 Dec
Finland	−2.4 Q4	−5.0	−2.8	+0.5	−15.6 Dec	+2.2 Jan	+3.9	+0.7	6.6 Jan
Iceland	−0.8 Q3	−5.5	−11.5	nil	+0.4 2007	+17.6 Feb	+6.8	+12.5	6.6 Jan‡‡
Ireland	+0.1 Q3	+4.7	−4.8	−1.4	−12.3 Dec	−0.1 Jan	+4.3	−0.7	10.4 Feb
Latvia	−10.5 Q4	na	−12.0	−2.0	−14.2 Dec	+9.8 Jan	+15.8	+3.0	10.4 Dec
Lithuania	−2.0 Q4	−5.1	−4.8	−1.2	na	+9.6 Jan	+9.9	+4.3	7.0 Jan‡‡
Luxembourg	−0.3 Q3	−5.5	−2.8	+0.1	−15.9 Nov	+0.5 Jan	+3.3	+0.5	5.0 Dec‡‡
New Zealand	−1.4 Q3	−2.7	−3.2	+0.4	−0.5 Q3	+3.4 Q4	+3.2	+1.6	4.6 Q4
Peru	+4.9 Dec	na	+3.1	+4.1	+3.9 Dec	+5.5 Feb	+4.8	+5.1	8.1 Dec††
Philippines	+4.5 Q4	+4.1	−0.6	+1.6	−6.6 Nov	+7.1 Jan	+4.9	+1.9	6.8 Q4‡‡
Portugal	−2.1 Q4	−7.8	−2.8	−0.7	−11.4 Dec	+0.2 Jan	+2.9	−0.5	7.8 Q4‡‡
Slovakia	+2.5 Q4	na	+2.0	+2.8	−16.7 Dec	+3.7 Jan	+3.8	+2.8	9.0 Jan††
Slovenia	+3.8 Q3	na	+0.5	+1.5	−17.5 Dec	+2.1 Feb	+6.5	+1.4	7.0 Dec‡‡

*% change on previous quarter, annual rate. † *The Economist* poll or Economist Intelligence Unit estimate/forecast. ‡ National definitions.- § RPI inflation rate 0.1% in Jan. **Year ending June. †† Latest three months. ‡‡ Not seasonally adjusted. ***Centred 3-month average

Sources: National statistics offices and central banks; Thomson Datastream; Reuters; Centre for Monitoring Indian Economy; OECD; ECB

The Economist commodity-price index

Mar 5th 2009
From The Economist print edition

The Economist commodity-price index
2000=100

	Feb 24th	Mar 3rd*	% change on one month	% change on one year
Dollar index				
All items	150.5	149.6	-5.0	-45.0
Food	178.9	174.6	-6.4	-34.9
Industrials				
All	113.9	117.4	-2.4	-57.6
Nfa†	107.2	105.4	-7.6	-47.9
Metals	117.6	124.0	+0.3	-61.0
Sterling index				
All items	158.3	161.6	-2.9	-22.2
Euro index				
All items	109.2	110.1	-2.0	-33.3
Gold				
$ per oz	974.25	909.40	+0.3	-5.8
West Texas Intermediate				
$ per barrel	39.97	41.32	+0.7	-58.7

*Provisional †Non-food agriculturals.

The Economist poll of forcasters, March averages

Mar 5th 2009
From The Economist print edition

***The Economist* poll of forecasters, March averages** (previous month's, if changed)

	Real GDP, % change				Consumer prices % increase		Current account % of GDP	
	Low/high range		average					
	2009	2010	2009	2010	2009	2010	2009	2010
Australia	–1.0/1.0	1.0/2.5	–0.3 (0.3)	1.6 -	2.1 (2.7)	2.2 -	–5.3 (-5.0)	–5.3 -
Belgium	–3.0/–0.9	0.3/1.6	–1.8 (-1.3)	0.9 -	1.1 (1.4)	1.8 -	0.7 (-0.1)	0.7 -
Britain	–3.7/–1.3	–1.1/2.0	–3.1 (-2.6)	0.5 -	1.0	1.7 -	–2.0 (-1.8)	–1.4 -
Canada	–3.4/–0.4	0.1/2.8	–1.5 (-0.7)	1.7 -	0.5 (0.9)	1.9 -	–1.1 (-0.6)	–0.3 -
France	–2.8/–1.4	nil/1.4	–1.9 (-1.7)	0.7 -	0.4 (0.7)	1.4 -	–2.2 (-2.0)	–2.5 -
Germany	–3.9/–2.3	0.1/1.3	–3.2 (-2.5)	0.8 -	0.4 (0.5)	1.1 -	5.3	4.9 -
Italy	–3.5/–1.3	–0.1/1.1	–2.7 (-2.3)	0.5 -	1.0 (1.2)	1.7 -	–2.0 (-2.3)	–2.0 -
Japan	–7.6/–3.8	–1.9/2.2	–5.3 (-3.2)	0.5 -	–0.8 (-0.5)	–0.2 -	2.0 (3.1)	2.0 -
Netherlands	–2.7/–1.5	–0.1/1.5	–1.9 (-1.6)	0.8 -	0.7 (0.9)	1.3 -	6.2 (5.9)	4.4 -
Spain	–3.4/–1.6	–1.0/1.0	–2.5 (-2.3)	nil -	0.6 (0.9)	2.0 -	–7.8 (-8.1)	–7.2 -
Sweden	–4.0/–1.0	0.3/1.6	–2.2 (-1.0)	0.9 -	–0.1 (0.8)	1.2 -	6.7 (6.9)	6.4 -
Switzerland	–2.5/–0.9	–0.2/1.2	–1.6 (-1.0)	0.7 -	–0.1 (0.5)	0.7 -	8.7	9.2 -
United States	–2.7/–1.2	0.6/2.7	–2.2 (-2.0)	1.9 -	–0.6 (-0.7)	1.5 -	–3.3 (-3.2)	–3.4 -
Euro area	–3.0/–1.5	nil/1.2	–2.4 (-2.1)	0.7 -	0.6 (0.8)	1.3 -	–0.8 (-0.6)	–0.7 -

Sources: ABN AMRO, BNP Paribas, Citigroup, Decision Economics, Deutsche Bank, Economist Intelligence Unit, Goldman Sachs, HSBC Securities, KBC Bank, JPMorgan Chase, Morgan Stanley, Scotiabank, UBS

Trade, exchange rates, budget balances and interest rates

Mar 5th 2009
From The Economist print edition

Trade, exchange rates, budget balances and interest rates

	Trade balance*	Current-account balance		Currency units, per $		Budget balance	Interest rates, %	
	latest 12 months, $bn	latest 12 months, $bn	% of GDP 2008†	Mar 4th	year ago	% of GDP 2008†	3-month latest	10-year gov't bonds, latest
United States	−820.6 Dec	−697.9 Q3	−3.3	–	–	−11.1	0.37	3.01
Japan	+38.5 Dec	+156.0 Dec	+2.0	99.4	104	−5.4	0.57	1.29
China	+314.8 Jan	+371.8 2007	+6.1	6.84	7.11	−3.6	1.27	3.11
Britain	−173.0 Dec	−45.6 Q3	−2.0	0.71	0.50	−11.3	2.05	3.63
Canada	+45.8 Dec	+19.2 Q3	−1.1	1.29	0.99	−2.4	0.45	3.19
Euro area	−46.4 Dec	−89.6 Dec	−0.8	0.80	0.65	−4.6	1.81	3.12
Austria	−1.5 Nov	+16.8 Q3	+1.6	0.80	0.65	−3.4	1.78	4.27
Belgium	+5.6 Nov	−8.2 Sep	+0.7	0.80	0.65	−2.5	1.80	4.18
France	−79.6 Dec	−56.1 Dec	−2.2	0.80	0.65	−5.4	1.78	3.76
Germany	+264.5 Dec	+237.0 Dec	+5.3	0.80	0.65	−3.7	1.78	3.12
Greece	−67.0 Nov	−51.2 Dec	−12.2	0.80	0.65	−4.8	1.78	5.82
Italy	−16.6 Dec	−72.4 Nov	−2.0	0.80	0.65	−4.3	1.78	4.61
Netherlands	+52.7 Dec	+67.6 Q3	+6.2	0.80	0.65	−1.3	1.78	3.76
Spain	−139.3 Dec	−159.1 Nov	−7.8	0.80	0.65	−7.4	1.78	4.00
Czech Republic	+4.4 Dec	−6.6 Dec	−3.0	21.8	16.4	−2.4	2.52	4.95
Denmark	+5.6 Dec	+6.0 Dec	+1.0	5.93	4.88	−0.8	3.70	3.79
Hungary	nil Dec	−11.3 Q3	−3.7	246	172	−2.7	9.50	11.00
Norway	+76.3 Jan	+83.4 Q4	+9.8	7.11	5.14	9.7	3.13	3.81
Poland	−23.7 Dec	−28.5 Dec	−4.9	3.73	2.31	−2.2	4.44	6.14
Russia	+179.8 Dec	+98.9 Q4	−3.3	36.1	24.0	−6.1	13.00	11.42
Sweden	+15.7 Jan	+40.3 Q4	+6.7	9.14	6.13	−2.6	0.31	2.80
Switzerland	+19.2 Jan	+40.3 Q3	+8.7	1.18	1.04	−1.7	0.49	2.07
Turkey	−69.8 Dec	−41.4 Dec	−3.4	1.73	1.21	−3.0	12.92	8.65‡
Australia	−1.0 Jan	−44.1 Q4	−5.3	1.55	1.07	−3.1	3.36	4.35
Hong Kong	−24.1 Jan	+26.4 Q3	+9.5	7.76	7.79	−3.7	0.90	1.86
India	−111.2 Jan	−28.5 Q3	−3.9	51.5	40.3	−6.1	4.74	7.07
Indonesia	+8.0 Jan	+3.9 Q3	+0.2	12,020	9,089	−2.9	9.85	11.66‡
Malaysia	+42.7 Dec	+38.3 Q3	+7.8	3.71	3.18	−6.6	2.09	3.98‡
Pakistan	−20.9 Jan	−15.6 Q3	−5.8	80.2	62.8	−6.4	11.95	23.43‡
Singapore	+16.1 Jan	+27.1 Q4	+14.0	1.55	1.39	−4.1	0.60	1.90
South Korea	−7.8 Feb	−5.0 Jan	+1.2	1,551	948	−3.5	2.47	4.95
Taiwan	+6.2 Jan	+25.0 Q4	+7.9	35.1	30.9	−5.0	0.90	1.59
Thailand	+1.7 Jan	−1.3 Jan	−0.2	36.1	31.6	−4.2	1.82	3.05
Argentina	+12.8 Jan	+9.0 Q3	−0.8	3.62	3.15	−0.8	14.50	na
Brazil	+24.2 Feb	−27.0 Jan	−2.2	2.38	1.67	−1.5	12.66	6.16‡
Chile	+8.5 Jan	−1.6 Q3	−3.9	610	448	−3.0	5.16	3.80‡
Colombia	+2.0 Dec	−5.3 Q3	−4.0	2,596	1,866	−3.3	8.86	7.18‡
Mexico	−16.6 Jan	−2.4 Q4	−4.1	15.2	10.7	−2.3	7.25	8.73
Venezuela	+50.2 Q3	+39.2 Q4	+0.2	5.65	5.00§	−5.2	17.13	6.55‡
Egypt	−25.2 Q3	+0.1 Q3	−1.0	5.63	5.47	−7.1	10.36	4.24‡
Israel	−13.1 Jan	+2.6 Q3	+1.9	4.22	3.60	−5.0	0.48	3.68
Saudi Arabia	+150.8 2007	+95.0 2007	−7.9	3.75	3.75	−8.0	1.15	na
South Africa	−10.9 Dec	−23.2 Q3	−7.0	10.4	7.76	−3.3	9.80	8.41
MORE COUNTRIES Data for the countries below are not provided in printed editions of *The Economist*								
Estonia	−3.6 Dec	−2.2 Dec	−4.2	12.5	10.2	−3.4	6.98	na
Finland	+10.1 Dec	+6.7 Dec	+2.4	0.80	0.65	−4.1	1.75	3.89
Iceland	+0.1 Feb	−5.4 Q3	−4.9	113	66.1	−12.6	18.13	na
Ireland	+43.4 Dec	−16.4 Q3	−1.7	0.80	0.65	−12.4	1.78	5.83
Latvia	−6.4 Dec	−4.5 Dec	−5.0	0.56	0.46	−6.0	10.15	na
Lithuania	−7.4 Dec	−6.3 Dec	−8.7	2.75	2.26	−2.4	7.00	na
Luxembourg	−7.8 Nov	+4.0 Q3	na	0.80	0.65	−3.9	1.78	na
New Zealand	−3.6 Jan	−11.6 Q3	−6.3	2.00	1.25	−6.5	3.65	4.48
Peru	+3.2 Dec	−3.0 Q3	−4.1	3.25	2.87	−1.9	6.40	na
Philippines	−7.6 Dec	+2.9 Sep	+2.9	48.7	40.8	−2.6	4.75	na
Portugal	−34.4 Nov	−29.3 Dec	−7.7	0.80	0.65	−4.5	1.78	4.54
Slovakia	−0.9 Dec	−6.2 Nov	−4.8	24.0	21.2	−2.8	1.35	4.29
Slovenia	−4.7 Dec	−3.1 Nov	−4.9	0.80	0.65	−3.3	1.78	na

*Merchandise trade only. †*The Economist* poll or Economist Intelligence Unit forecast. ‡Dollar-denominated bonds. §Unofficial exchange rate.
Sources: National statistics offices and central banks; Thomson Datastream; Reuters; JPMorgan; Bank Leumi le-Israel; Centre for Monitoring Indian Economy; Danske Bank; Hong Kong Monetary Authority; Standard Bank Group; UBS; Westpac.

Markets

Mar 5th 2009
From The Economist print edition

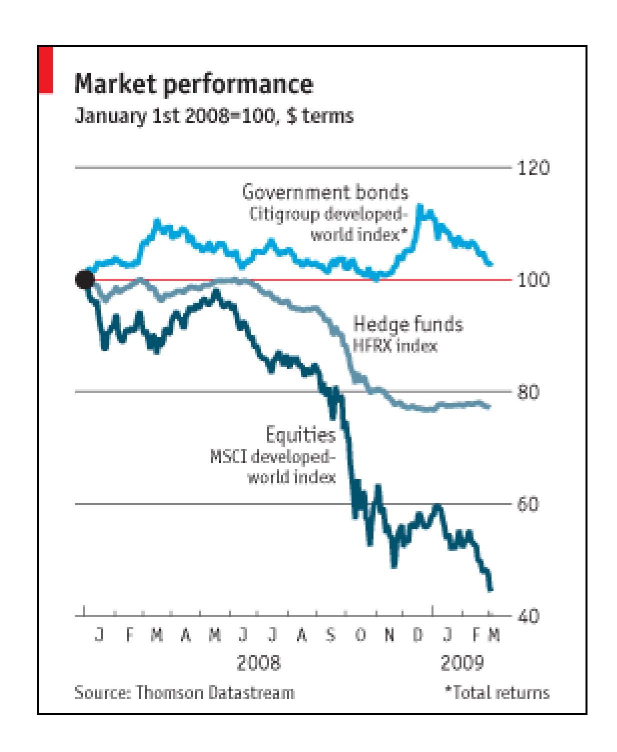
Markets

	Index	% change on		
			Dec 31st 2007	
	Index Mar 4th	one week	in local currency	in $ terms
United States (DJIA)	6,875.8	−5.4	−21.7	−21.7
United States (S&P 500)	712.9	−6.8	−21.1	−21.1
United States (NAScomp)	1,353.7	−5.0	−14.2	−14.2
Japan (Nikkei 225)	7,291.0	−2.3	−17.7	−24.9
Japan (Topix)	732.0	−1.8	−14.8	−22.3
China (SSEA)	2,307.5	−0.4	+20.7	+20.3
China (SSEB, $ terms)	140.2	−3.7	+26.8	+26.4
Britain (FTSE 100)	3,645.9	−5.3	−17.8	−19.3
Canada (S&P TSX)	7,814.8	−1.5	−13.1	−16.5
Euro area (FTSE Euro 100)	598.7	−1.0	−19.8	−27.5
Euro area (DJ STOXX 50)	1,943.5	−1.1	−20.6	−28.3
Austria (ATX)	1,503.0	+3.6	−14.2	−22.4
Belgium (Bel 20)	1,584.2	−5.8	−17.0	−25.0
France (CAC 40)	2,675.7	−0.8	−16.9	−24.9
Germany (DAX)*	3,890.9	+1.2	−19.1	−26.9
Greece (Athex Comp)	1,507.4	−0.9	−15.6	−23.8
Italy (S&P/MIB)	14,363.0	−5.6	−26.2	−33.3
Netherlands (AEX)	211.6	−4.1	−14.0	−22.3
Spain (Madrid SE)	774.3	−2.2	−20.7	−28.3
Czech Republic (PX)	646.4	+0.7	−24.7	−33.3
Denmark (OMXCB)	207.8	−5.6	−8.1	−17.1
Hungary (BUX)	10,033.6	+1.5	−18.0	−36.2
Norway (OSEAX)	254.4	+0.1	−5.9	−7.3
Poland (WIG)	22,719.6	+6.1	−16.6	−33.8
Russia (RTS, $ terms)	562.9	+4.6	+5.3	−10.9
Sweden (Aff.Gen)	188.2	+1.6	−4.6	−17.5
Switzerland (SMI)	4,463.7	−5.1	−19.3	−27.2
Turkey (ISE)	23,940.7	−0.9	−10.9	−20.3
Australia (All Ord.)	3,125.9	−4.7	−14.6	−21.5
Hong Kong (Hang Seng)	12,331.2	−5.2	−14.3	−14.4
India (BSE)	8,446.5	−5.1	−12.4	−17.2
Indonesia (JSX)	1,289.4	−0.8	−4.9	−13.7
Malaysia (KLSE)	866.9	−3.3	−1.1	−7.9
Pakistan (KSE)	5,815.4	+4.2	−0.8	−2.2
Singapore (STI)	1,544.3	−4.5	−12.3	−18.4
South Korea (KOSPI)	1,059.3	−0.7	−5.8	−23.5
Taiwan (TWI)	4,541.4	+1.1	−1.1	−7.4
Thailand (SET)	417.9	−3.8	−7.1	−10.5
Argentina (MERV)	986.3	−3.2	−8.6	−12.8
Brazil (BVSP)	38,402.0	+0.4	+2.3	+0.1
Chile (IGPA)	11,736.5	−3.3	+3.6	+8.3
Colombia (IGBC)	7,764.6	+1.9	+2.7	−11.0
Mexico (IPC)	17,825.0	−2.1	−20.4	−27.6
Venezuela (IBC)	37,388.2	−1.5	+6.5	+14.7
Egypt (Case 30)	3,559.1	−0.1	−22.6	−24.2
Israel (TA-100)	594.7	−0.4	+5.4	−5.5
Saudi Arabia (Tadawul)	4,348.3	−4.3	−9.5	−9.4
South Africa (JSE AS)	18,474.2	−1.8	−14.1	−23.6
Europe (FTSEurofirst 300)	696.2	−2.8	−16.3	−24.4
World, dev'd (MSCI)	722.4	−5.4	−21.5	−21.5
Emerging markets (MSCI)	493.5	−2.4	−13.0	−13.0
World, all (MSCI)	180.6	−5.1	−20.7	−20.7
World bonds (Citigroup)	744.2	−1.6	−8.1	−8.1
EMBI+ (JPMorgan)	384.5	−0.9	−1.8	−1.8
Hedge funds (HFRX)‡	1,024.4	−0.6	+0.4	+0.4
Volatility, US (VIX)	47.6	44.7	40.0 (levels)	
CDSs, Eur (iTRAXX)†	193.1	+7.9	−4.4	−13.7
CDSs, N Am (CDX)†	271.2	+12.4	+16.2	+16.2
Carbon trading (EU ETS) €	11.6	+19.3	−28.2	−35.2

*Total return index. †Credit-default swap spreads, basis points.
Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Reuters; WM/Reuters; JPMorgan Chase; Bank Leumi le-Israel; CBOE; CMIE; Danske Bank; EEX; HKMA; Markit; Standard Bank Group; UBS; Westpac. ‡Mar 3rd

Market performance

Mar 5th 2009
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Since the start of last year most investors have had a terrible time. Rich-world government bonds returned a measly 2.4% in dollar terms between January 2008 and the beginning of March 2009. At least bond returns were positive, which is more than could be said for equities and hedge-fund investments. The stocks in the MSCI index, which covers 23 rich countries, have lost more than half their value since the beginning of 2008. Hedge funds took a battering too, though they fared better than stockmarkets. The Hedge Fund Research index, an industry standard, fell by 22.7% between January last year and the end of February 2009. A small comfort for hedge fund investors is that their more recent returns have been broadly flat.